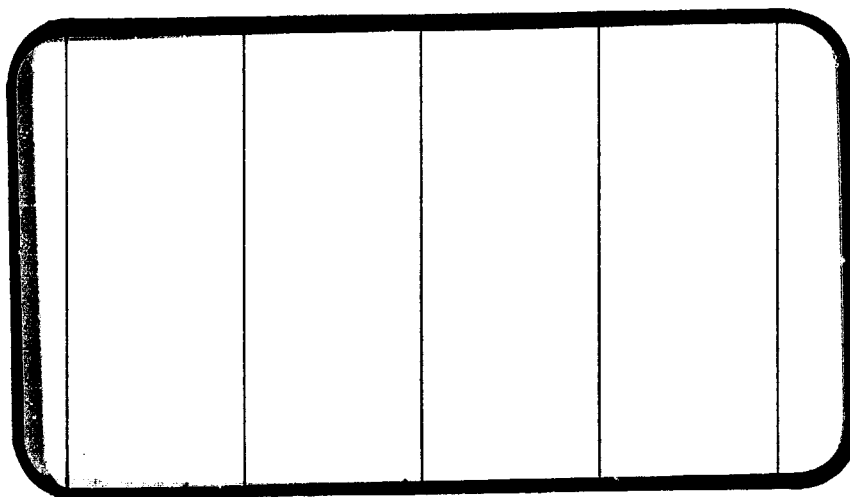




NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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(NASA-CR-134404) RESULTS OF
TRANSONIC/SUPERSONIC STATIC STABILITY WIND
TUNNEL TESTS OF AN C.O04-SCALE SPACE
SHUTTLE ORBITER MODEL (0A49) (Chrysler
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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANAGEMENT services

SPACE DIVISION



CHRYSLER
CORPORATION

September, 1974

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NASA CR-134,404

RESULTS OF TRANSONIC/SUPERSONIC STATIC STABILITY
WIND TUNNEL TESTS OF AN 0.004-SCALE
SPACE SHUTTLE ORBITER MODEL (OA49)

By

Edward Allen
Rockwell International Space Division

Prepared under NASA Contract Number NAS9-13247

by

Data Management Services
Chrysler Corporation Space Division
New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: MSFC 581
NASA Series Number: OA49
Model Number: 34-0
Test Dates: 18 November through 9 December 1973
Occupancy Hours: 170

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RESULTS OF TRANSONIC/SUPERSONIC STATIC STABILITY

WIND TUNNEL TESTS OF AN 0.004-SCALE

SPACE SHUTTLE ORBITER MODEL (0A49)

By Edward Allen, Rockwell International Space Division

ABSTRACT

Experimental aerodynamic investigations of an 0.004-scale model of the Configuration 4 Space Shuttle Orbiter were conducted in the NASA/MSFC 14-inch Transonic Wind Tunnel during November and December 1973.

Elevon, aileron, bodyflap, speedbrake, and rudder effectiveness and effects of ventral fins were investigated at angles of attack from -10° to 40° , angles of sideslip from -10° to $+10^\circ$, and Mach numbers from 0.6 to 4.96. Resulting six-component static stability data and associated test information are presented.

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Plotted Coefficients Schedule:

- (A) CL, CD, L/D, CAB, CAF, CAP, CN, CLM, XCP/L, CDF,
CLMAFT versus ALPHA
CL, CD, L/D, CAB, CAF, CAP, CN, CLM, XCP/L, CDF,
CLMAFT versus MACH NUMBER
CL versus CLM
CN versus CLM
CL versus CD
- (B) DELCL, DELCD, DELCN, DELCLM, DELCAB, DELCAF, DELCAP versus ALPHA
DELCL, DELCD, DELCN, DELCLM, DELCAB, DELCAF, DELCAP versus MACH NO.
DELCL, DELCD, DELCN, DELCLM, DELCAB, DELCAF, DELCAP versus DELEVR
- (C) DELCL, DELCD, DELCN, DELCLM, DELCAB, DELCAF, DELCAP versus ALPHA
- (D) CY, CYN, CBL versus BETA
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DELCL, DELCD, DELCN, DELCLM, DELCAB, DELCAF, DELCAP versus MACH NO.
DELCL, DELCD, DELCN, DELCLM, DELCAB, DELCAF, DELCAP versus BDFLAP
- (F) DCY/DR, DCYNDR, DCBLDR versus ALPHA
DCY/DR, DCYNDR, DCBLDR versus MACH NO.
- (G) DELCL, DELCD, DELCN, DELCLM, DELCAB, DELCAF, DELCAP versus ALPHA
DELCL, DELCD, DELCN, DELCLM, DELCAB, DELCAF, DELCAP versus MACH NO.
DELCL, DELCD, DELCN, DELCLM, DELCAB, DELCAF, DELCAP versus SPDBRK
- (H) DCY/DA, DCYNDA, DCBLDA versus ALPHA
DCY/DA, DCYNDA, DCBLDA versus ELEVT
DCY/DA, DCYNDA, DCBLDA versus MACH NO.
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- (L) CYBETA, CYNBET, CBLBET versus MACH NO.
- (M) DELCLM, DELCN, DELCAP, DELCL, DELCD, DELCBL, DELCYN,
DELCY versus ELEVT

NOMENCLATURE
General

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C _p	CP	pressure coefficient; $(p_1 - p_\infty)/q$
M	MACH	Mach number; V/a
p		pressure; N/m ² , psf
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$, N/m ² , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
ϕ	PHI	angle of roll, degrees
ρ		mass density; kg/m ³ , slugs/ft ³

Reference & C.G. Definitions

A _b		base area; m ² , ft ²
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$\frac{l}{c}$ _{REF}	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m ² , ft ²
	MRP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

SUBSCRIPT

b	base
l	local
s	static conditions
t	total conditions
∞	free stream

NOMENCLATURE (Continued)

Body-Axis System

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>
C_N	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
C_A	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_{A_b}	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(p_b - p_\infty)/qS$
C_{A_f}	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$

Stability-Axis System

C_L	CL	lift coefficient; $\frac{\text{lift}}{qS}$
C_D	CD	drag coefficient; $\frac{\text{drag}}{qS}$
C_{D_b}	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
C_{D_f}	CDF	forebody drag coefficient; $C_D - C_{D_b}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$
L/D	L/D	lift-to-drag ratio; C_L/C_D
L/D_f	L/DF	lift to forebody drag ratio; C_L/C_{D_f}

NOMENCLATURE (Continued)		
<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>
C_{A_p}	CAP	total axial-force coefficient
$C_{m_{aft}}$	CLMAFT	pitching-moment coefficient about aft c.g. limit
x_{cp}/l	XCP/L	longitudinal center of pressure location, fraction of body length
AB		model base area, in ²
A _c		model balance cavity area, in ²
$C_{l_{\beta}}$	CBLBET	rolling-moment coefficient sideslip derivative, per deg.
$C_{l_{\delta a}}$	DCBLDA	rolling-moment coefficient aileron derivative, per deg.
$C_{l_{\delta R}}$	DCBLDR	rolling-moment coefficient rudder derivative, per deg.
$C_{n_{\beta}}$	CYNBET	yawing-moment coefficient sideslip derivative, per deg.
$C_{n_{\delta a}}$	DCYNDA	yawing-moment coefficient aileron derivative, per deg.
$C_{n_{\delta R}}$	DCYNDR	yawing-moment coefficient rudder derivative, per deg.
C_{p_c}		balance cavity pressure coefficient
$C_{Y_{\beta}}$	CYBETA	side-force coefficient sideslip derivative, per deg.
$C_{Y_{\delta a}}$	DCY/DA	side-force coefficient aileron derivative, per deg.
$C_{Y_{\delta R}}$	DCY/DR	side-force coefficient rudder derivative, per deg.
ΔC_{A_B}	DELCAB	incremental base axial-force coefficient
ΔC_{A_f}	DELCAF	incremental forebody axial-force coefficient
ΔC_{A_p}	DELCAP	incremental total axial-force coefficient
ΔC_D	DELCD	incremental drag coefficient

NOMENCLATURE (Concluded)

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>
ΔC_{D_f}	DELCDF	incremental forebody drag coefficient
ΔC_L	DELCL	incremental lift coefficient
$\Delta C_{m_{fwd}}$	DELCLM	incremental pitching-moment coefficient about forward c.g. limit
$\Delta C_{m_{aft}}$	DCLMAF	incremental pitching-moment coefficient about aft c.g. limit
ΔC_N	DELCHN	incremental normal-force coefficient
ΔC_ℓ	DELCBL	incremental rolling-moment coefficient
ΔC_n	DELCYN	incremental yawing-moment coefficient
ΔC_y	DELCHY	incremental side-force coefficient
δ_a	AILRON	aileron deflection angle, degrees
δ_e	ELEVTR	elevon deflection angle, degrees
δ_{eL}	ELEVLT	left elevon deflection angle, degrees
δ_{eR}	ELEVRT	right elevon deflection angle, degrees
δ_{BF}	BDFLAP	bodyflap deflection angle, degrees
δ_{SB}	SPDBRK	speedbrake deflection angle, degrees
δ_v	VENTRL	bodyflap ventral deflection angle, indicated as Y.XX; where Y = 1, for ventral open or 2, for ventral closed and XX = deflection angle in degrees, trailing edge left (aft looking forward) is positive deflection
$\Delta \delta_e$	DELEVR	incremental elevon deflection angle, degrees
$\Delta \delta_a$	DELARN	incremental aileron deflection angle, degrees

REMARKS

A dimensional check of model 34-0 showed it was not a true scale representation of the Configuration 4 Space Shuttle Orbiter. Model planform dimensions differed from the Configuration 4 lines as shown in figure 2b. Data reduction constants were adjusted to correct for these differences as follows:

<u>Dimension</u>	<u>Baseline Configuration 4</u>	<u>Test OA49 Data Reduction</u>
wing area, S , ft^2	2690	2741.8
wing span, b , in	936.68	936.68
wing MAC, \bar{c} , in	474.81	481.648
MRP-forward c.g. limit, in. X_0	1076.7	1081.39
MRP-aft c.g. limit, in. X_0	1102.5	1107.196
MRP lateral location, in. Y_0	0.0	0.0
MRP vertical location, in. Z_0	375.0	375.0
elevon area, ft^2	210.00	238.93
elevon lever arm (fwd c.g.), in	328.45	331.89

Model elevon angles also differed from those nominally desired as shown in Tables IV and V.

Nominal deflection values are given in Table II. Actual model values are used in data figures and in the appendix.

The speedbrake deflection angle, 25.55, specified in the parameter data of the plots denotes a deflection angle as a function of Mach number. The speedbrake deflection angle is 25 degrees for Mach numbers less than or equal to 0.9 and 55 degrees for Mach numbers equal to or greater than 1.2.

CONFIGURATIONS INVESTIGATED

The test specimen was an 0.004-scale representation of the Space Shuttle Vehicle 4 Orbiter as shown in figure 2a. It was comprised of the following components:

B ₂₆	VL70-000140A/0140B/0143B/0200/0205/0145/6089 fuselage
C ₉	VL70-000140A/143A canopy
E ₂₆	VL70-000140B/200/6089/6092 elevon
F ₇	VL70-000140A/145 bodyflap
L ₁	small ventral fin located on bodyflap centerline per VL70-007030
L ₂	two ventral fins located on bodyflap tips per VL70-007030
L ₃	small ventral fin located on centerline forward of bodyflap per VL70-007030
L ₄	large ventral fin located on bodyflap centerline per VL70-007030
M ₇	VL70-000140A/145 OMS pod
R ₅	VL70-000095/139/146A rudder
V ₈	VL70-000140A/146A vertical tail
W ₁₁₆	VL70-000140A/200 wing

A detailed description of these components is given in Table III and Figure 2.

Nominal control surface deflections investigated were:

①

CONFIGURATIONS INVESTIGATED (Concluded)

δ_a = 0° , 5° , 10° , 15°
 δ_{BF} = -11.7° , 0° , 16.3° , 22.6°
 δ_e = -40° , -30° , -20° , -10° , -5° , -2.5° , 0° , 2.5° , 5° , 7.5° ,
 10° , 15°
 δ_{SB} = 0° , 25° , 55° , 85°
 δ_V = 0° , 15° and 30° open - L_1 , L_3 , and L_4
 0° closed - L_1 , L_3 , and L_4
 45° open - L_2
 0° and 0.9° closed - L_2

Model anomalies are described in the remarks section.

TEST FACILITY DESCRIPTION

The Marshall Space Flight Center 14" x 14" Trisonic Wind Tunnel is an intermittent blowdown tunnel which operates by high pressure air flowing from storage to either vacuum or atmospheric conditions. A Mach number range from .2 to 5.85 is covered by utilizing two interchangeable test sections. The transonic section permits testing at Mach 0.20 through 2.50, and the supersonic section permits testing at Mach 2.74 through 5.85. Mach numbers between .2 and .9 are obtained by using a controllable diffuser. The range from .95 to 1.3 is achieved through the use of plenum suction and perforated walls. Mach numbers of 1.44, 1.93 and 2.50 are produced by interchangeable sets of fixed contour nozzle blocks. Above Mach 2.50 a set of fixed contour nozzle blocks are tilted and translated automatically to produce any desired Mach number in .25 increments.

Air is supplied to a 6000 cubic foot storage tank at approximately -40°F dew point and 500 psi. The compressor is a three-stage reciprocating unit driven by a 1500 hp motor.

The tunnel flow is established and controlled with a servo actuated gate valve. The controlled air flows through the valve diffuser into the stilling chamber and heat exchanger where the air temperature can be controlled from ambient to approximately 180°F . The air then passes through the test section which contains the nozzle blocks and test region.

Downstream of the test section is a hydraulically controlled pitch sector that provides a total angle of attack range of 20° ($\pm 10^{\circ}$). Sting offsets are available for obtaining various maximum angles of attack up to 90° .

DATA REDUCTION

Data were reduced about body and stability axes using standard MSFC TWT methods. The following constants were used:

	full scale	model scale
reference area, S , ft^2	2741.80	0.04387
reference length, \bar{c} , in	481.65	1.9266
reference span, b , in	936.68	3.7467
XMRP, in. fuselage station		
forward CG	1081.39	4.3256
aft CG	1107.20	4.4288
YMRP, in. butt line	0.0	0.0
ZMRP, in. water line	375.0	1.500
reference body length, l , in	1290.3	5.161
cavity area, ft^2	137.5	0.00220
base area, ft^2	417.4	0.00668

1

TABLE II.

TEST :msfc Tw7581 (phiA49)

DATE : 12 NOV 1973

DATA SET/RUN NUMBER COLLATION SUMMARY

DATA SET IDENTIFIER	CONFIGURATION	SCHD.	PARAMETERS/VALUES		NO. OF RUNS	WACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLES)												TEST RUN NUMBERS
			alpha	beta		delta alpha	delta beta	0.6	0.9	1.2	1.46	1.96	2.99	4.0	4.96	8.0		
R92001	(BCFM)(WE)(VR)	A	0	0	-40	-11.7	A	0	171	172	173	285	299	8	9	10	82	
002					-20				170	169	168	285	298	12		11	-20	
003					-10				165	166	167	284	297	13		14	-10	
004					0				164	163	162	283	296	5	4	3	0	
005					15				176	175	174	282	295	16	19	15	15	
006					0				183	184	185	289	292	2		1	0	
007					0	16.3			122	181	180	288	293	7		6	0	
008					15				177	178	179	287	294	17		18	15	
009		B			-40	-11.7								23	24	25	-40	
010					-20									28		29	-20	
011					-10									27		26	-10	
012					0									32	31	30	0	
013					15									22	20	21	15	
014					0									33		34	0	
015					0	16.3								36		35	0	
016					15									37		38	15	
017					10									371		88	10	
018		A			10									372		87	10	

1

7

13

19

25

31

37

43

49

55

61

67

75

76

CM

CLM

CY

CYN

CBL

CAP

CAB

CL

CD

alpha

OR

beta

$\Delta A = 0.70 \pm 0.20^\circ (\Delta \alpha = 2^\circ)$; $\Delta B = 2.0 \pm 0.40^\circ (\Delta \beta = 2^\circ)$; $\Delta D = -10.70 \pm 1.0^\circ (\Delta \alpha = 2^\circ)$

$\beta A = -10.70 \pm 1.0^\circ (\Delta \beta = 2^\circ)$

$\beta B A = 2.5^\circ$ FOR $M \leq 0.9$, 5.5° FOR $M \geq 1.2$

SCHEDULES

COEFFICIENTS

IDVAR (1)

IDVAR (2)

IDV

$$(BCFM)(WE)(VR) = (B_{26}C_9F_7M_7)(W_{116}E_{26})(V_8R_5)$$

TABLE II. - Continued

TEST: MSFC TWT 581 (0449)										DATE: 12 NOV 1973									
DATA SET/RUN NUMBER COLLATION SUMMARY																			
DATA SET IDENTIFIER	CONFIGURATION	SCHD. PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)				TEST RUN NUMBERS								
		α	β	$\delta\alpha$	$\delta\beta$		$\delta\alpha$	$\delta\beta$	$\delta\gamma$	$\delta\delta$	0.6	2.9	1.2	2.99	4.96				
R92036	(BCFM)(WE)(VR)	0	A	0	-117	A	-10				0	0							
037		10									247	248	249						
038		20									258	257	256	75	76				
039		30									265	266	267	78	77				
040		40												87	86				
041		0																	
042		10					-20				252	251	250						
043		20									253	254	255	74	73				
044		30									270	269	268	79	80				
045		40												84	85				
046		A	0								207	208	209						
047											211	210							
048											212	213	214						
049											223	222	221						
050											218	219	220						
051											217	216	215						
052											224	225	226						
053											229	228	227						
		7	13	19	25	31	37	43	49	55	61	67	73	75	76				
		COEFFICIENTS																	

TABLE II. - Continued

TEST: MSFC TWT 581 (0449)										DATE: 12 NOV 1973																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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TABLE II. - Continued

TEST: MSFC TWT581 (D449)										DATE: 12 NOV 1973																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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TABLE II. - Continued

TEST:MSFC TWT 581(QNA49)

DATE: 12 NOV 1973

DATA SET/RUN NUMBER COLLATION SUMMARY

DATA SET IDENTIFIER	CONFIGURATION	SCHD. PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)										TEST RUN NUMBERS
		α	β	δ_{or}	δ_{BF}		δ_{SB}	δ_T	δ_e	δ_a	0.6	0.9	1.2	1.96	2.99	4.96	
R92 107	(BCFM)(WE)(VR)	A	0	10	-11.7	A	0	10	0	0							
↓ 108	↓	B	0	10	-11.7	A	0	10	0	0							
R92 111	(BCFM)(WE)(VR)	A	0	0	16.3	55	0		0	0	187	186					
112						85	0				188	189	190				
113						55	-10				236	237	238				
114						85	-10				235	234	233				
115						22.6	A	0			193	192	191	301			
116						15	22.6				194	195	196	300			
117						-30	-11.7								373	374	
118		B				-30									396	395	
119						0	25								397	398	
120						-40	25								400	399	
121						0	85								392	391	
122						-40	85								393	394	
123						0	85	-10							401	402	
↓ 124	↓					0	24	-10								403	

7131925313743495561677576

COEFFICIENTS

IOVAR (1)IOVAR (2)NOV

α OR β

SCHEDULES

TABLE II. - Continued

[illegible]

TABLE II. - Continued

TEST:MSFC TWT 581 (phi49)

DATE: 12 Nov 1973

DATA SET / RUN NUMBER COLLATION SUMMARY

DATA SET IDENTIFIER	CONFIGURATION	SCMD. PARAMETERS / VALUES				NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)				TEST RUN NUMBERS	
		A	B	100000BF	DSB DY		delta	delta	delta	delta		
R92 143	(BCFM)(NE)(VR)	A	0	10%	-11.7	A	0			-5	-5	4.96
144				30%						-10	-10	379
145				30%						-15	-15	380
146				40%						-20	-20	381
147		B		30%						-20	-20	382
148				30%						-15	-15	383
149				20%						-10	-10	384
150				70%						-5	-5	385
151				5%						-2.5	-2.5	386
152				5%						2.5	2.5	387
153				10%						5	5	388
154				15%						7.5	7.5	389
												390
R92 157	(BCFM)(NE)(VR)	A	0	0	-11.7	85	0			0	0	405
158				40		85				-40	0	406
159		B		20		85				-20	0	407
160				20		25				-20	0	408

17131925313743495561677576

COEFFICIENTS

OR B
SCHEDULES

TABLE II. - Continued

[illegible]

L1 = ♀ BODY FLAP VENTRAL

TABLE II. - Continued

TEST : MSFC TW7 581 (41149)										DATE : 12 NOV 1973																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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L2 = FLIP OUT VENTRAL

TABLE II. - Continued

[illegible]

L3 = FUSELAGE MOUNTED SMALL VENTRAL

TABLE II. - Concluded

[illegible]

L4 = BODY FLAP MOUNTED LARGE VENTRAL

*REVISED 4/24/74

TABLE III. - MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY - B₂₆

GENERAL DESCRIPTION : Configuration 140A/B Orbiter Fuselage

NOTE: B₂₆ is identical to B₂₄ except underside of fuselage has been
refaired to accept W₁₁₆

MODEL SCALE: 0.004 MODEL DRAWING: SS-A00147, RELEASE 12

DRAWING NUMBER VL70-000143B, -000200, -000205, -006089, -000145,
VL70-000140A, -000140B

DIMENSIONS :	FULL SCALE	MODEL SCALE
*Length (OML: Fwd Sta. X ₀ =235)-In.	1293.3	5.173
*Length (IML: Fwd. Sta X ₀ 238)-In.	<u>1290.3</u>	<u>5.161</u>
* Max Width (@ X ₀ =1528.3) - In.	<u>264.0</u>	<u>1.056</u>
Max Depth	<u> </u>	<u> </u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u>340.88</u>	<u>0.005</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

*REVISED 4/24/74

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT : CANOPY - C₉

GENERAL DESCRIPTION : Configuration 3A. Canopy used with Fuselage
B₂₆.

MODEL SCALE: 0.004 MODEL DWG: SS-A00147

DRAWING NUMBER : VL70-000143A. -000140A

DIMENSIONS :	FULL SCALE	MODEL SCALE
*Length ($X_0 = 434.643$ to 578)	<u>143.357</u>	<u>0.573</u>
Max Width (@ $X_0 = 513.127$)	<u>152.412</u>	<u>0.610</u>
Max Depth (@ $X_0 = 485.$)	<u>25.000</u>	<u>0.100</u>
Fineness Ratio	<u> </u>	<u> </u>
Area	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

*REVISED 4/24/74

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ELEVON - E26

GENERAL DESCRIPTION: Configuration 140A/B Orbiter elevons.

Data are for one side.

MODEL SCALE: 0.004

MODEL DWG: SS-A00148, RELEASE 6

DRAWING NUMBER: VL70-000200, -006089, -006092, - 000140B

DIMENSIONS:

	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area - Ft ²	<u>210.0</u>	<u>0.003</u>
Span (equivalent) , In.	<u>349.2</u>	<u>1.397</u>
Inb'd equivalent chord, In.	<u>118.004</u>	<u>0.472</u>
Outb'd equivalent chord	<u>55.192</u>	<u>0.221</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.2096</u>	<u>0.2096</u>
At Outb'd equiv. chord	<u>0.4004</u>	<u>0.4004</u>
Sweep Back Angles, degrees		
Leading Edge	<u>0.00</u>	<u>0.00</u>
Trailing Edge	<u>- 10.056</u>	<u>-10.056</u>
Hingeline	<u>0.00</u>	<u>0.00</u>
* Area Moment (. Product of area & \bar{c}) , Ft ³	<u>1587.25</u>	<u>0.001</u>
*Mean Aerodynamic Chord, In.	<u>90.73</u>	<u>0.363</u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT : BODY FLAP - F

GENERAL DESCRIPTION : Configuration 140A/B Orbiter body flap

MODEL SCALE: 0.004 MODEL DWG: SS-A00147, RELEASE 12

DRAWING NUMBER VL70-000140A, -000145

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length ($X_0=1520$ to $X_0=1613$), In.	<u>93.000*</u>	<u>0.372</u>
Max Width (In.)	<u>262.00</u>	<u>2.105</u>
Max Depth ($X = 1520$) - In.	<u>23.000</u>	<u>0.092</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft^2	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u>142.6</u>	<u>0.002</u>
Wetted	<u> </u>	<u> </u>
Base	<u>41.847</u>	<u>0.0007</u>

*Model dim. measured from Model Sta. 15.20

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: VENTRAL - L_1

GENERAL DESCRIPTION: Ventral, L_1 , is a centerline, body flap mounted device consisting of a 10° single wedge section with a 3.0 inch leading edge radius. All dimensions are defined at a zero degree body flap deflection.

MODEL SCALE: 0.004

DRAWING NO.: VL70-007030, VL70-000140B

DIMENSIONS:

	FULL SCALE	MODEL SCALE
Exposed area, ft^2	20.24	0.0003
Equivalent span, in.	43.050	0.172
Aspect ratio	0.6359	0.6359
Rate of taper	0.5472	0.5472
Taper ratio	0.7036	0.7036
Chords, In.		
Exposed root	79.479	3.179
Equivalent tip	55.922	0.224
Exposed M.A.C.	68.383	0.274
Fus. Sta. of 0.25 M.A.C.	1564.902	6.260
B.L. of 0.25 M.A.C.	0.00	0.00
Airfoil section		
Leading wedge angle, deg.	10.00	10.00
Trailing wedge angle, deg.	--	--
Leading edge radius, in.	3.00	3.00
Void Area	--	--
Blanketed area, ft^2	2.39	0.00004
Spindle centerline		
Sweepback angle, deg.	6.29	6.29
Point of intersection at ventral,	X_0 1579.702	6.319
body flap mold line, in.	Y_0 0.00	0.000
	Z_0 281.630	1.125

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: VENTRAL - L₂

GENERAL DESCRIPTION: Ventral, L₂, is a single axis yaw flap which is mounted on both sides of the body flap and can be stowed out of the freestream or rotated to a fully deployed position which is canted outboard at 45° to the freestream. NOTE: All dimensions are taken from a true view of the fully deployed position with a separate listing for the constant chord section of the ventral and the tapered section. ($\delta_{BF} = 0^\circ$)

MODEL SCALE: 0.004

DRAWING NO.: LOCKHEED MODEL DWG R80002
Rockwell Dwg. VL70-007030

DIMENSIONS: (DATA FOR ONE OF TWO SIDES)

	FULL SCALE	MODEL SCALE
Constant Chord Section:		
True area, ft ²	10.02	0.0002
Equivalent span, in.	21.225	0.085
Aspect ratio	0.3121	0.3121
Rate of taper	0.00	0.00
Taper ratio	0.00	0.00
Sweep-back angles, degrees		
Leading edge	0.00	0.00
Trailing edge	0.00	0.00
Chords, In.		
Equivalent root (Z ₀ 292.73 IN. F.S.)	68.000	0.272
Chord @ Z ₀ 271.50 IN. F.S.	68.000	0.272
Airfoil Section		
Constant thickness, in.	6.000	0.024
Leading edge radius, in.	3.000	0.018
Tapered Section		
True area, ft ²	18.73	0.00030
True span, in.	58.0	0.232
Aspect ratio	1.2473	1.2473
Rate of taper	0.7414	0.7414
Taper ratio	0.3676	0.3676
Sweep-back angles, degrees		
Leading edge	36.55	36.55
Trailing edge	0.00	0.00
0.25% @ element line	29.08	29.08
Chords, In.		
Root (@ Z ₀ 271.50 IN. F.S.)	68.000	0.272
Tip (@ Z ₀ 213.50 IN. F.S.)	25.000	0.100
M.A.C.	49.814	0.199
W.P. of M.A.C.	246.971	0.988
Airfoil Section, In.		
Constant thickness,	6.000	0.024
Leading edge radius	3.000	0.018
Ventral Hingeline Axis		
L. sideview of orbiter		
Sweep-back angle, deg.	45.00	45.00
Aftview of orbiter (looking forward)		
Outboard cant angle, deg.	13.50	13.50
Point of intersection @ body flap hingeline, in.	X ₀ 1532.000 Y ₀ + 114.500 Z ₀ 287.000	6.128 + 0.458 1.148

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: VENTRAL - L₃

GENERAL DESCRIPTION: Ventral, L₃, is a centerline, body-mounted device consisting of a 10° single wedge section with a 3.0 inch leading edge radius. L₃ is identical to L₁ except that L₃ has been moved forward from the body flap to the body. All dimensions are defined at a zero degree body flap deflection.

MODEL SCALE: 0.004

DRAWING NO.: VL70-007030, VL70-000140B

DIMENSIONS:

	FULL SCALE	MODEL SCALE
Exposed area, ft ²	20.24	0.00032
Equivalent span, In.	43.050	0.1722
Aspect ratio	0.6359	0.6359
Rate of taper	0.5472	0.5472
Taper ratio	0.7036	0.7036
Sweep-back angles, degrees		
Leading edge	33.32	33.32
Trailing edge	6.29	6.29
0.25% element line	27.50	27.50
Chords, In.		
Exposed root	79.479	0.318
Equivalent tip	55.922	0.224
Exposed M.A.C.	68.383	0.274
W.P. of 0.25 M.A.C.	1470.200	5.881
B.L. of 0.25 M.A.C.	0.00	0.00
Airfoil Section		
Leading wedge angle, deg.	10.00	10.00
Trailing wedge angle, deg.	--	--
Leading edge radius, In.	3.00	0.018
Void area	--	--
Blanketed area, ft ²	2.39	0.000038
Spindle, centerline		
Sweepback angle, deg.	6.29	6.29
Point of intersection at ventral, body flap mold line, In.		
	X ₀ 1485.0	5.940
	Y ₀ 0.00	0.00
	Z ₀ 271.188	1.085

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: VENTRAL - L_4

GENERAL DESCRIPTION: Ventral, L_4 , is a centerline, body flap-mounted device consisting of a 10° single wedge section with a 3.0 inch leading edge radius. All dimensions are defined at a zero degree body flap deflection.

MODEL SCALE: 0.004

DRAWING NO.: VL70-007030, VL70-000140B

DIMENSIONS:

	FULL SCALE	MODEL SCALE
Exposed area, ft^2	40.47	0.00065
Equivalent span, in.	60.883	0.243
Aspect ratio	0.6360	0.6360
Rate of taper	0.5472	0.5472
Taper ratio	0.7035	0.7035
Sweep-back angle, degrees		
Leading edge	33.32	33.32
Trailing edge	6.29	6.29
0.25% element line	27.50	27.50
Chords, In.		
Exposed root	112.376	0.450
Equivalent tip	79.061	0.316
Exposed M.A.C.	96.684	0.387
Fus. Sta. of 0.25 M.A.C.	1577.499	6.310
W.P. of 0.25 M.A.C.	247.968	0.992
B.L. of 0.25 M.A.C.	0.00	0.00
Airfoil section		
Leading wedge angle, deg.	10.00	10.00
Trailing wedge, angle, deg.	--	--
Leading edge radius, In.	3.00	0.012
Void area	0.0	0.0
Blanketed area, ft^2	4.78	0.000076
Spindle centerline		
Sweep-back angle, deg.	6.29	6.29
Point of intersection at ventral, body flap mold line, In.		
X_0	1579.702	6.319
Y_0	0.00	0.00
Z_0	281.630	1.127

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT : OMS/RCS PODS - M7

GENERAL DESCRIPTION : Configuration 140A/B Orbiter OMS/RCS pods

MODEL SCALE: 0.004 MODEL DWG: SS-A001.7, RELEASE 12

DRAWING NUMBER VL70-000145, - 000140A

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (OMS Fwd Sta. $X_0 = 1233.00$)	<u>327.000</u>	<u>1.304</u>
Max Width (@ $X_0 = 1450.0$), In.	<u>94.5</u>	<u>0.378</u>
Max Depth (@ $X_0 = 1493.0$), In.	<u>109.000</u>	<u>0.436</u>
Fineness Ratio	<u> </u>	<u> </u>
Area	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

*REVISED 4/24/74

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT: RUDDER - R5

GENERAL DESCRIPTION: 2A, 3, 3A and 140A/B Configurations

MODEL SCALE: 0.004

DRAWING NUMBER: VL70-000146A, -000095, -000139.

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
* Area - Ft ²	<u>100.15</u>	<u>0.0016</u>
Span (equivalent), In.	<u>201.0</u>	<u>0.804</u>
Inb'd equivalent chord, In.	<u>91.585</u>	<u>0.366</u>
Outb'd equivalent chord, In.	<u>50.833</u>	<u>0.203</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>34.83</u>	<u>34.83</u>
Trailing Edge	<u>26.25</u>	<u>26.25</u>
Hingeline	<u>34.83</u>	<u>34.83</u>
*Area Moment (Product of Area & \bar{c}), Ft ³	<u>610.92</u>	<u>0.00004</u>
*Mean Aerodynamic Chord, In.	<u>73.2</u>	<u>0.293</u>

TABLE IV. - MODEL ELEVON PANEL DEFLECTION VALUES

Nominal δ_e		Measured			
left	right	δ_{eL}	δ_{eR}	δ_e	δ_a
-40	-40	-33.96	-33.33	-33.65	-0.32
-30	-30	-24.07	-23.60	-23.84	-0.24
-25	-25	-20.05	-19.20	-19.63	-0.43
-20	-20	-15.94	-15.15	-15.55	-0.40
-15	-15	-10.13	- 9.27	- 9.70	-0.43
-10	-10	- 4.94	-3.68	-4.31	-0.63
- 5	- 5	-0.72	-0.54	-0.63	-0.09
0	0	3.49	4.82	4.16	-0.67
5	5	9.25	8.96	9.11	0.15
10	10	12.48	13.77	13.13	-0.65
15	15	15.11	18.47	16.79	-1.68

All deflection values are in degrees.

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TABLE V. - MODEL COMBINED ELEVON/AILERON DEFLECTION VALUES

Nominal		Measured	
δ_e	δ_a	δ_e	δ_a
-30	0	-23.84	-0.24
-30	5	-24.06	4.01
-30	10	-24.64	8.70
-20	0	-15.55	-0.40
-20	5	-14.67	4.54
-20	10	-14.27	9.33
-20	15	-14.39	13.67
-10	0	- 4.31	-0.63
-10	5	- 5.00	4.28
-10	10	-5.83	9.32
-10	15	-4.98	14.23
0	0	4.16	0.67
0	5	4.36	4.90
0	10	4.40	8.08
0	15	2.92	12.19
10	0	13.13	-0.65
10	5	12.04	3.08

All deflection values are in degrees.

Notes:

1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrows
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

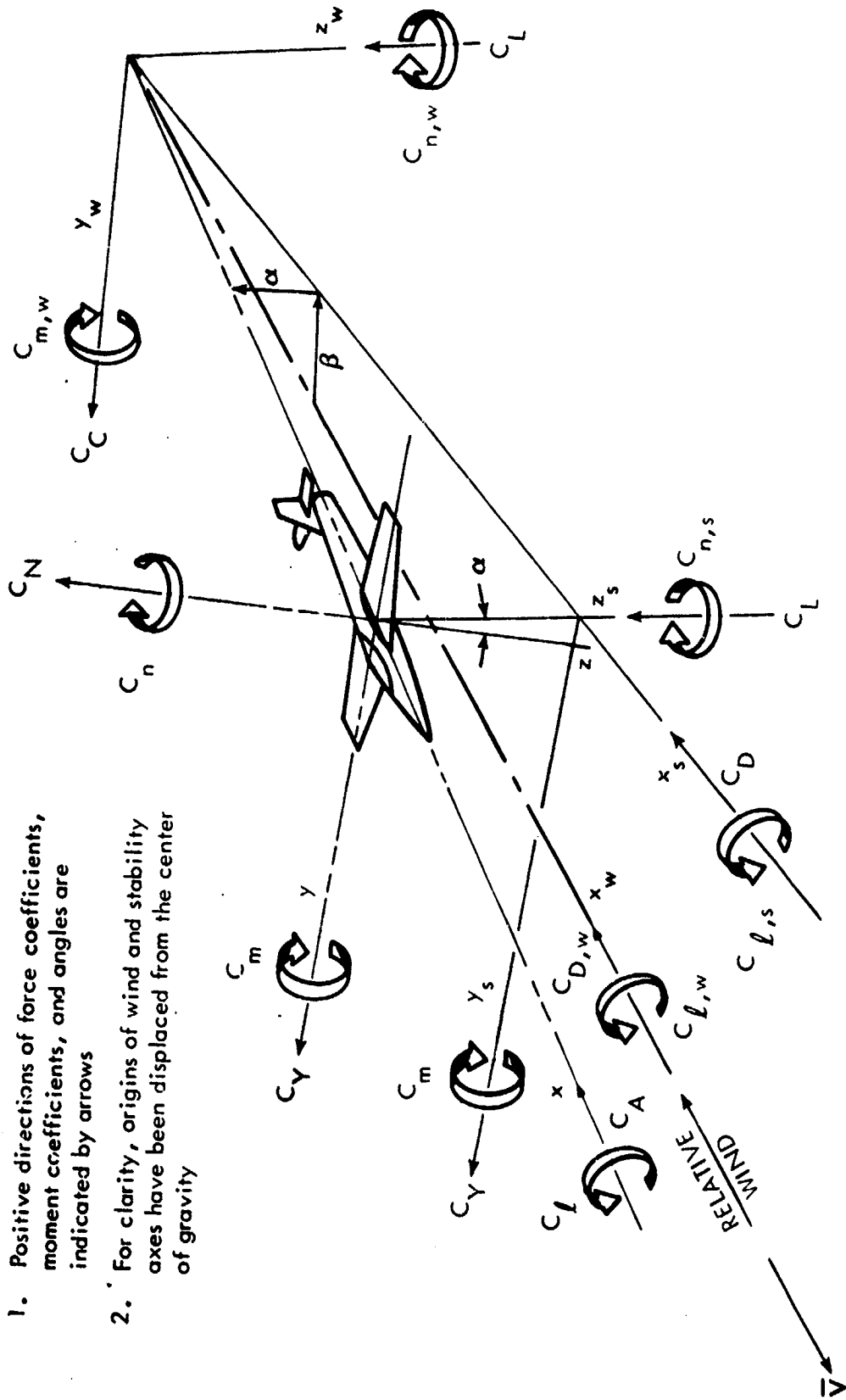
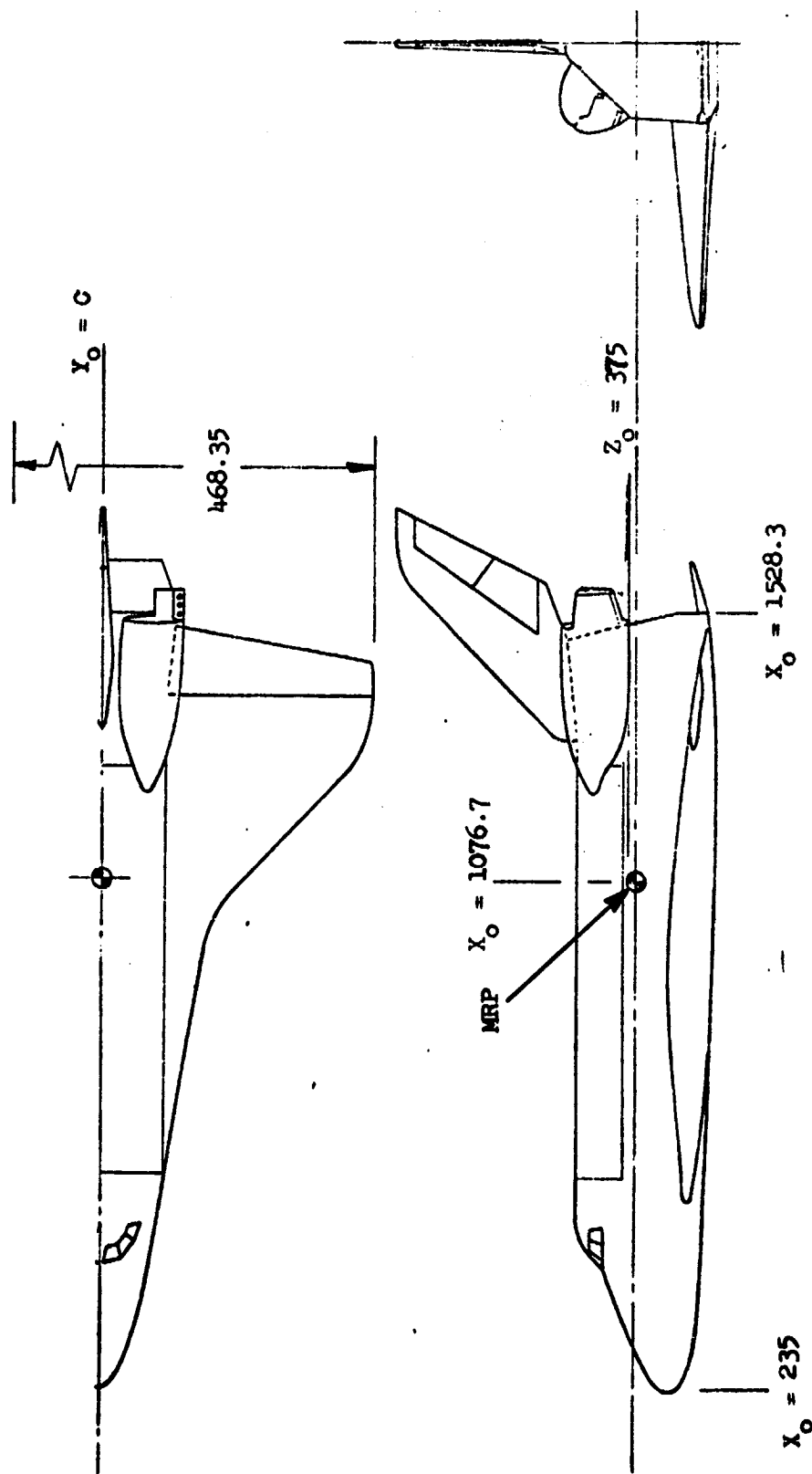


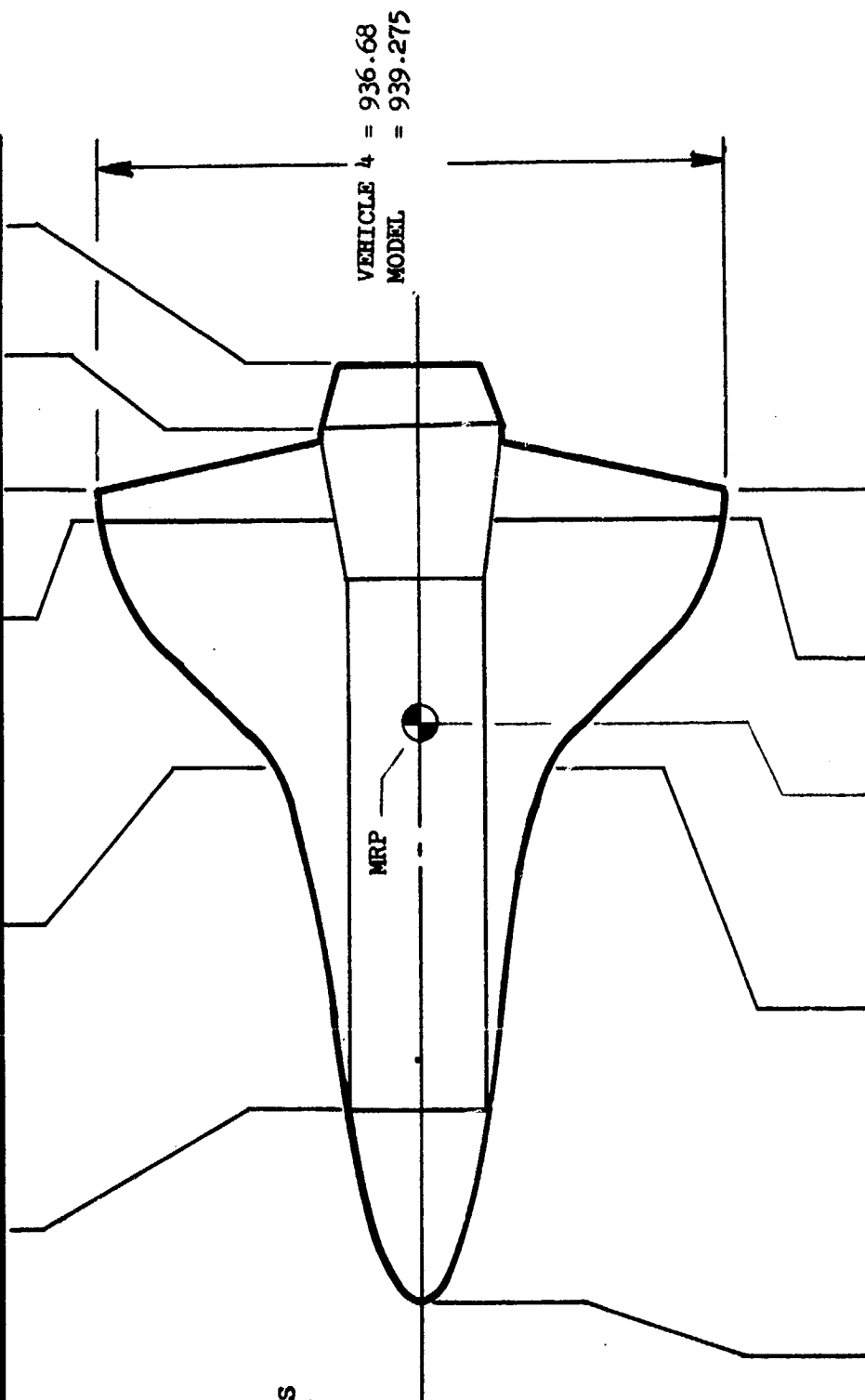
Figure 1. - Axis systems.



a. Vehicle 4 General Arrangement
Figure 2. - Model sketches.

ORBITER	VEHICLE 4	700.0	1024.0	1387.0	1442.2	1519.3	1613.0
X STATION	MODEL	700.0	1030.3	1389.9	1448.8	1523.5	1616.9

NOTE: ALL DIMENSIONS
IN FULL SCALE
INCHES

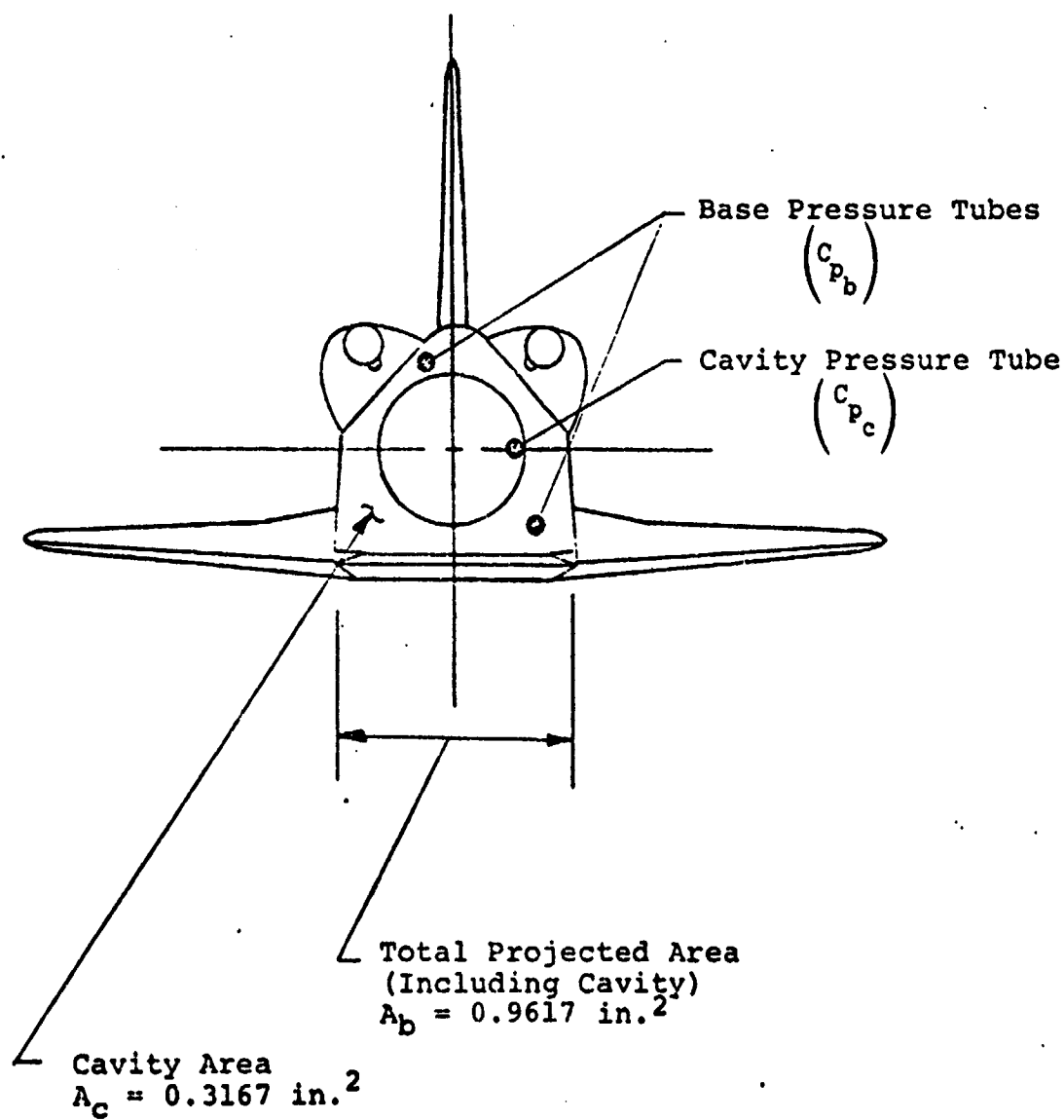


VEHICLE 4 = 936.68
MODEL = 939.275

ORBITER	VEHICLE 4	235.0	1024.0	1076.7	1387.0	1442.2
X STATION	MODEL	234.0	1030.3	1081.39	1388.0	1451.7

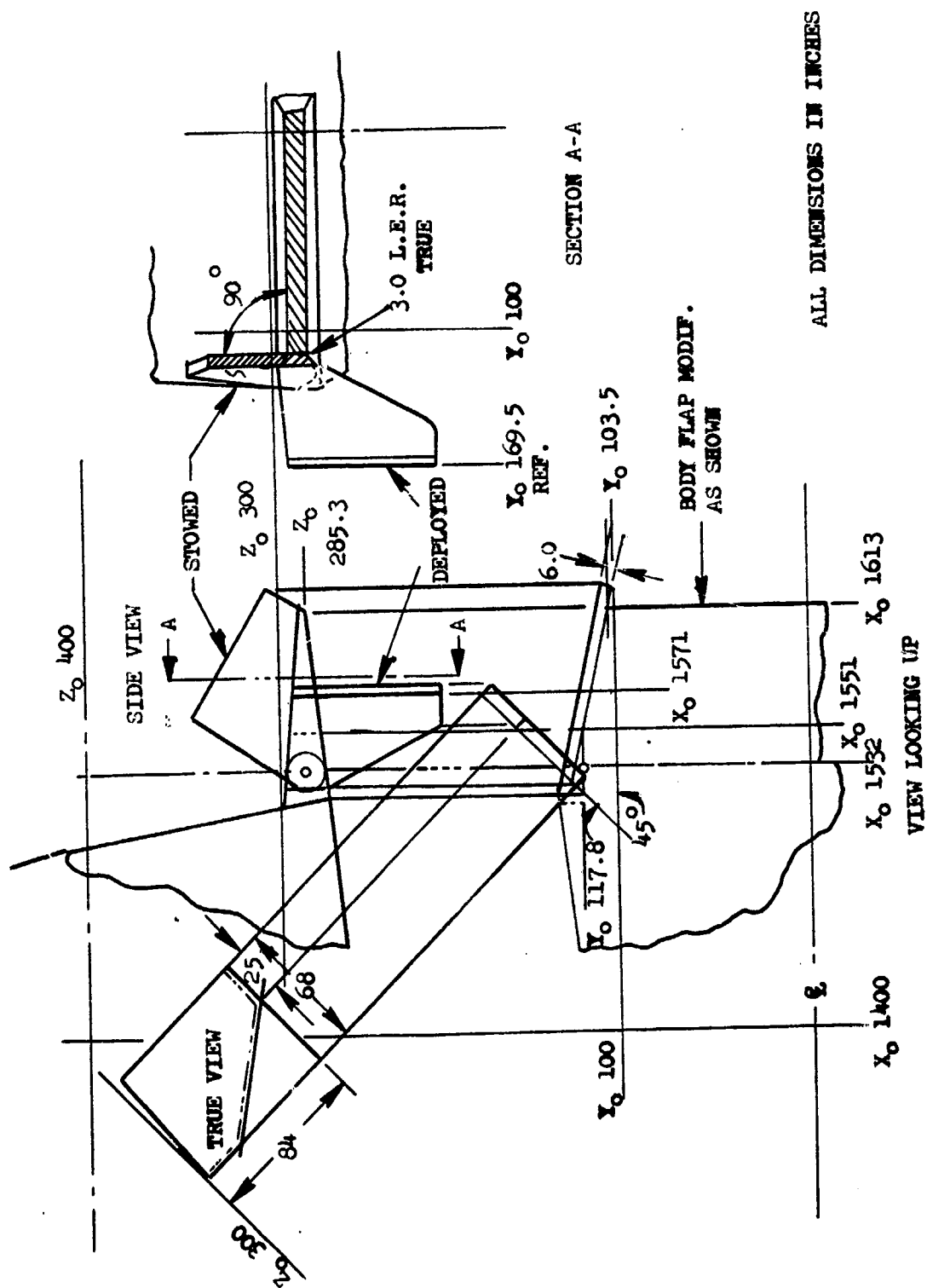
b. Model Dimensional Comparison with Vehicle 4

Figure 2. - Continued.



c. Base and Balance Cavity Pressure Instrumentation

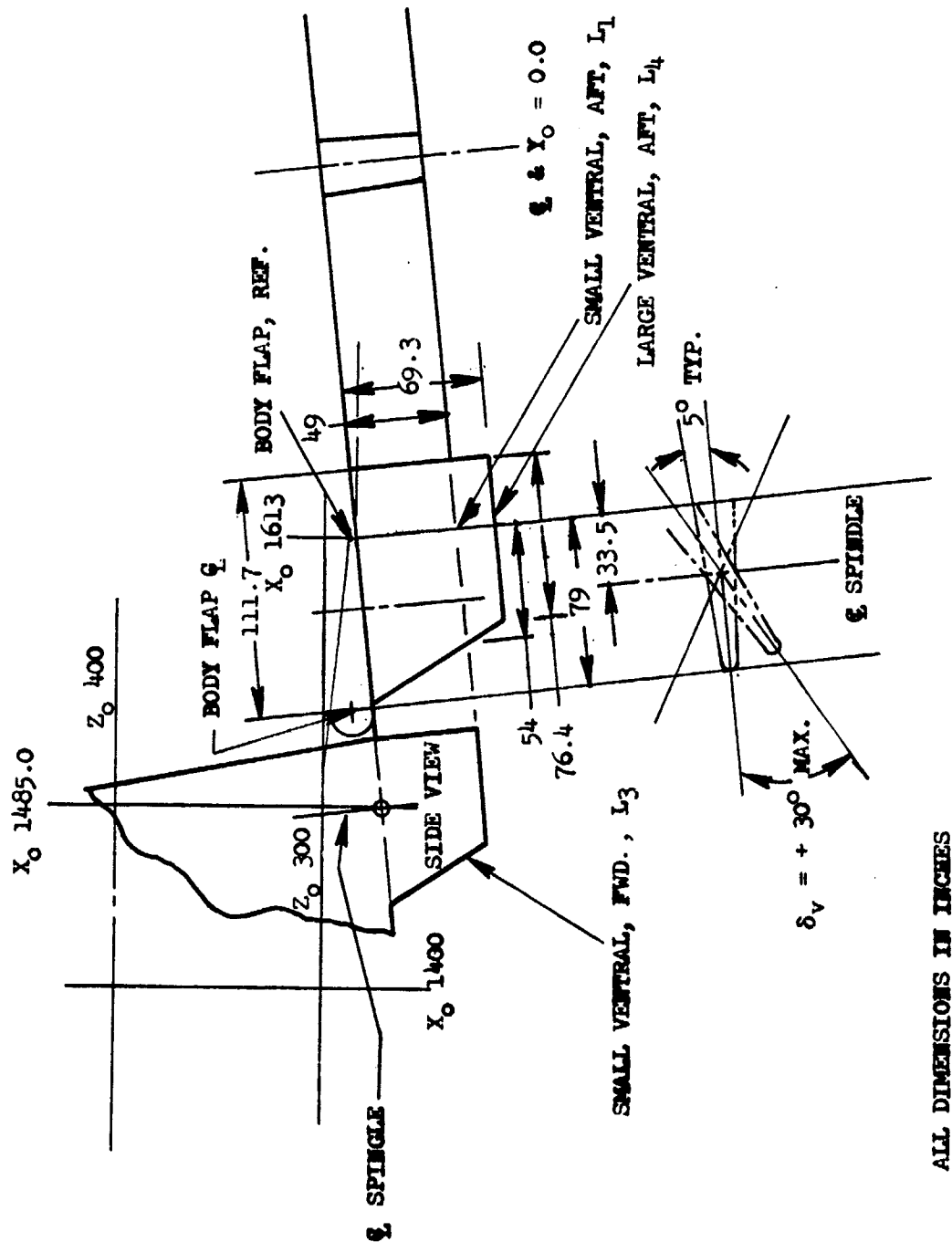
Figure 2. - Continued.



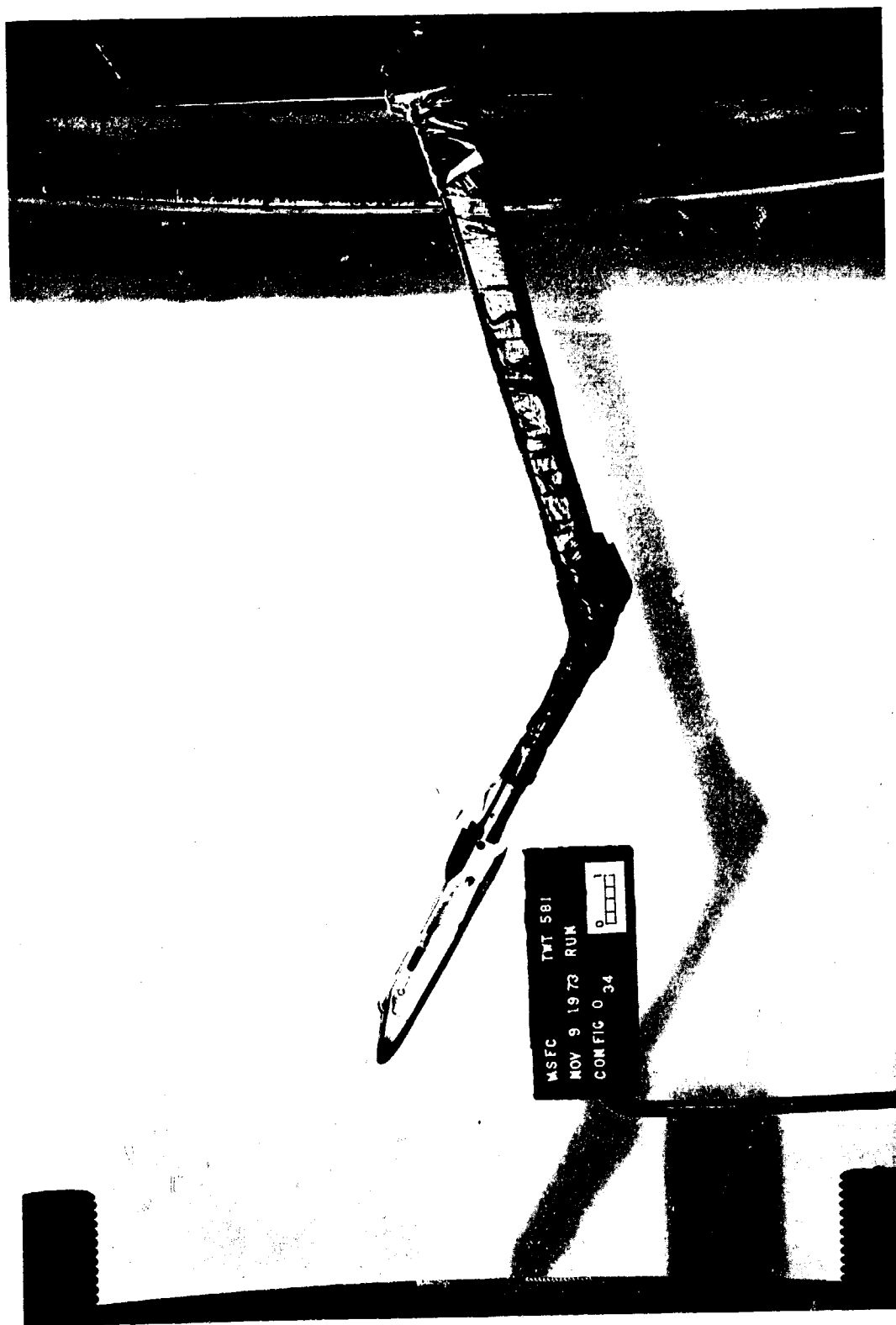
ALL DIMENSIONS IN INCHES

d. Bodyflap Tip Mounted Ventral, L₂

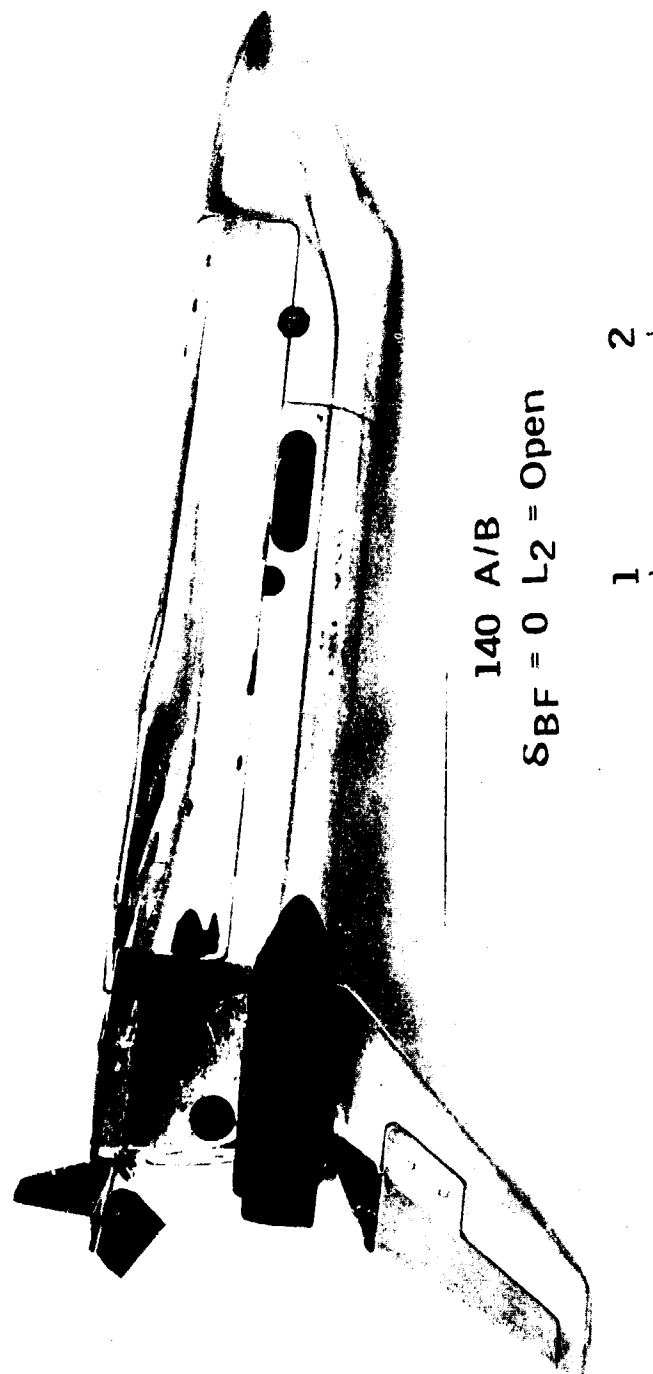
Figure 2. - Continued.



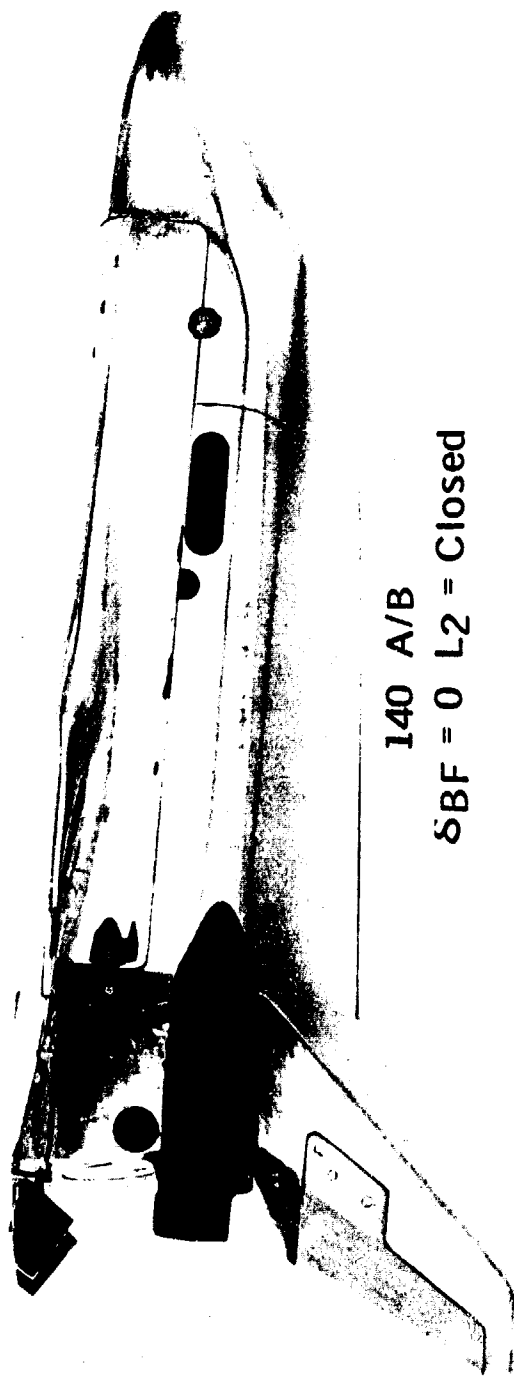
e. Centerline Bodyflap Mounted Ventrals
Figure 2. - Concluded.



a. Tunnel installation
Figure 3. Model photographs



b. Ventral L_2 in open position
Figure 3. Continued

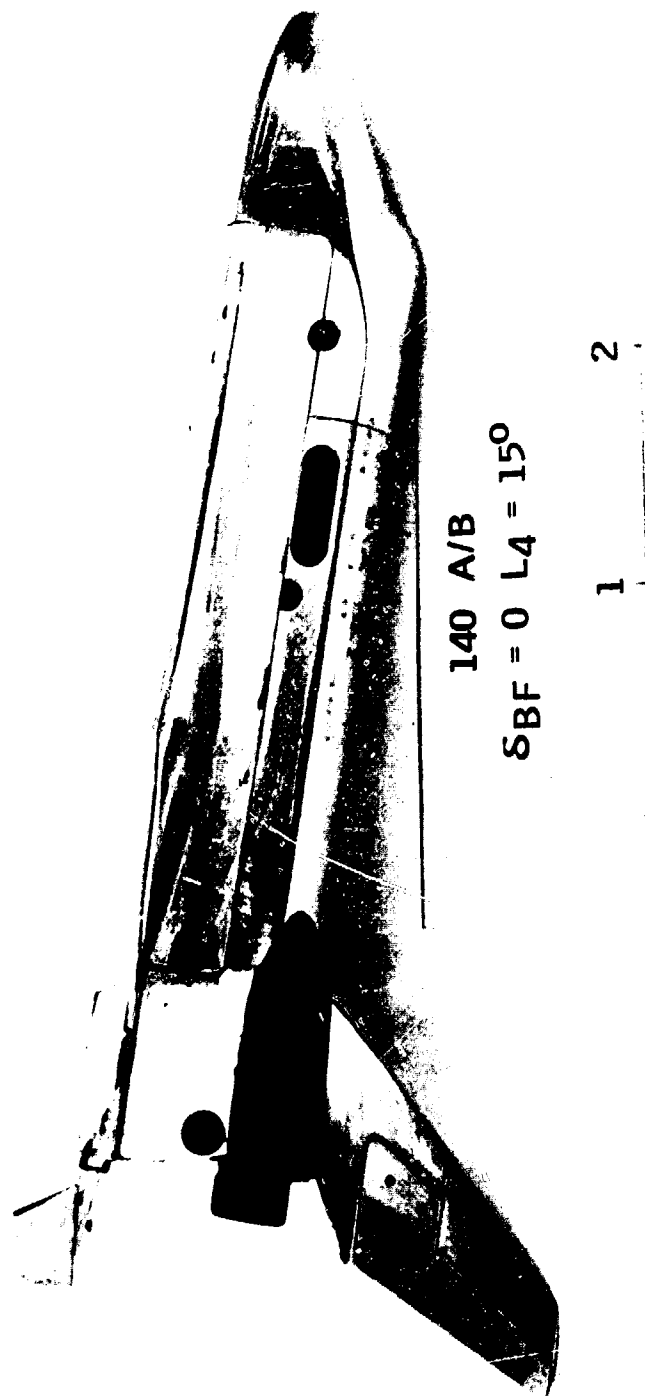


140 A/B

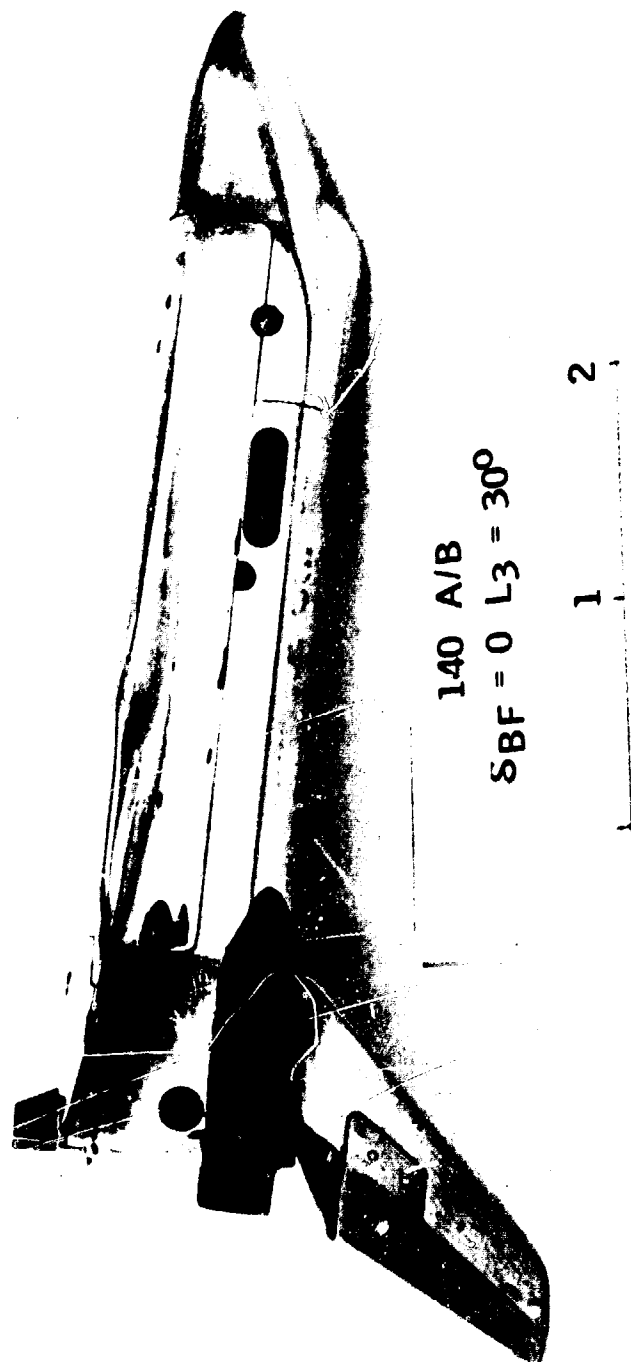
$\delta BF = 0$ L2 = Closed

1 2

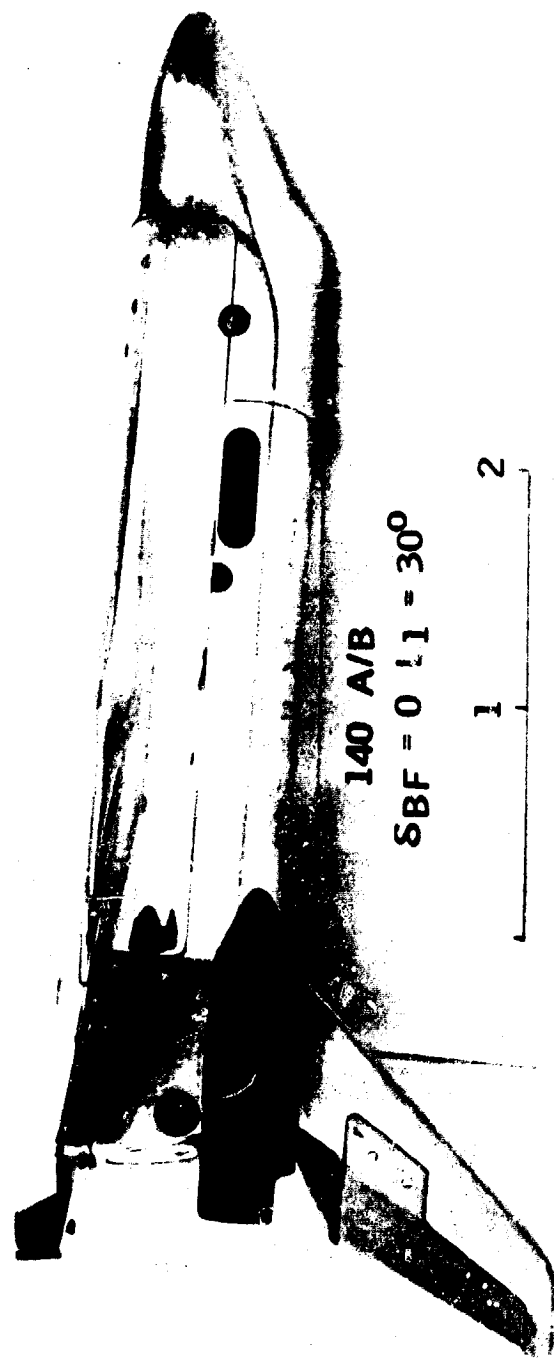
c. Ventral L2 in closed position
Figure 3. Continued



d. Ventral L_4 in 15° open position
Figure 3. Continued



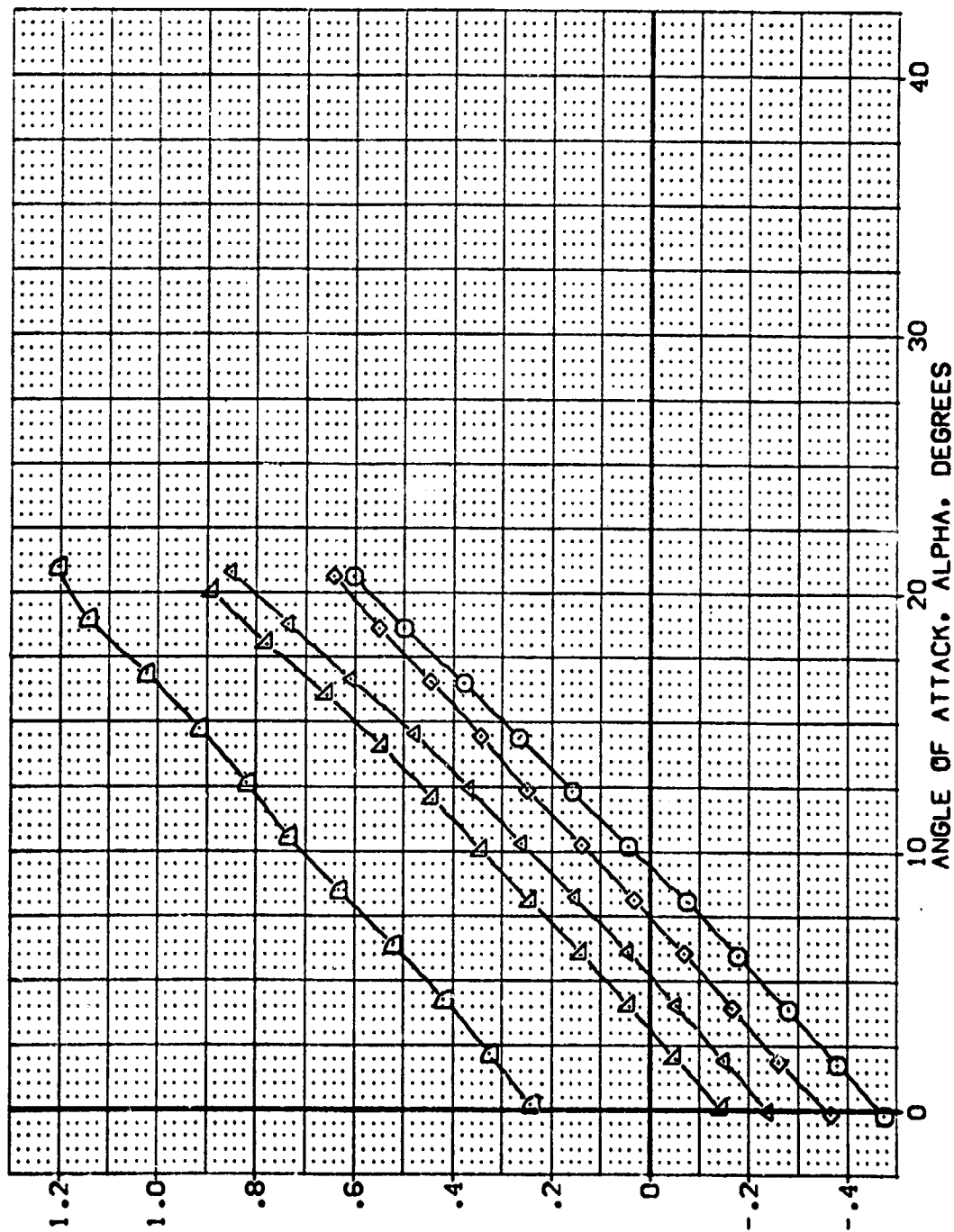
e. Ventral L3 in 30° open position
Figure 3. Continued



f. Ventral L_1 in 30° open position
Figure 3. Concluded

DATA FIGURES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVIR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(E92001)	MSFC 581(OA49) DRB 34-O (BOFH) (VE)(VR)	-23.850	-11.700	25.550	-.320	SREF 2741.8000 SQ. FT
(E92117)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-.240	LREF 481.6480 IN.
(E92002)	MSFC 581(OA49) DRB 34-O (BOFH) (VE)(VR)	-15.550	-11.700	25.550	-.400	BREF 936.7000 IN.
(E92003)	MSFC 581(OA49) DRB 34-O (BOFH) (VE)(VR)	-4.310	-11.700	25.550	-.630	XMRP 1081.3900 IN.
(Z92004)	MSFC 581(OA49) DRB 34-O (BOFH) (VE)(VR)	.000	-11.700	25.550	-1.680	YMRP .0000 IN.
(E92005)	MSFC 581(OA49) DRB 34-O (BOFH) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZMRP .0040 IN.



LIFT COEFFICIENT, CL

INTERPOLATED ZERO ELEVON CHARACTERISTICS

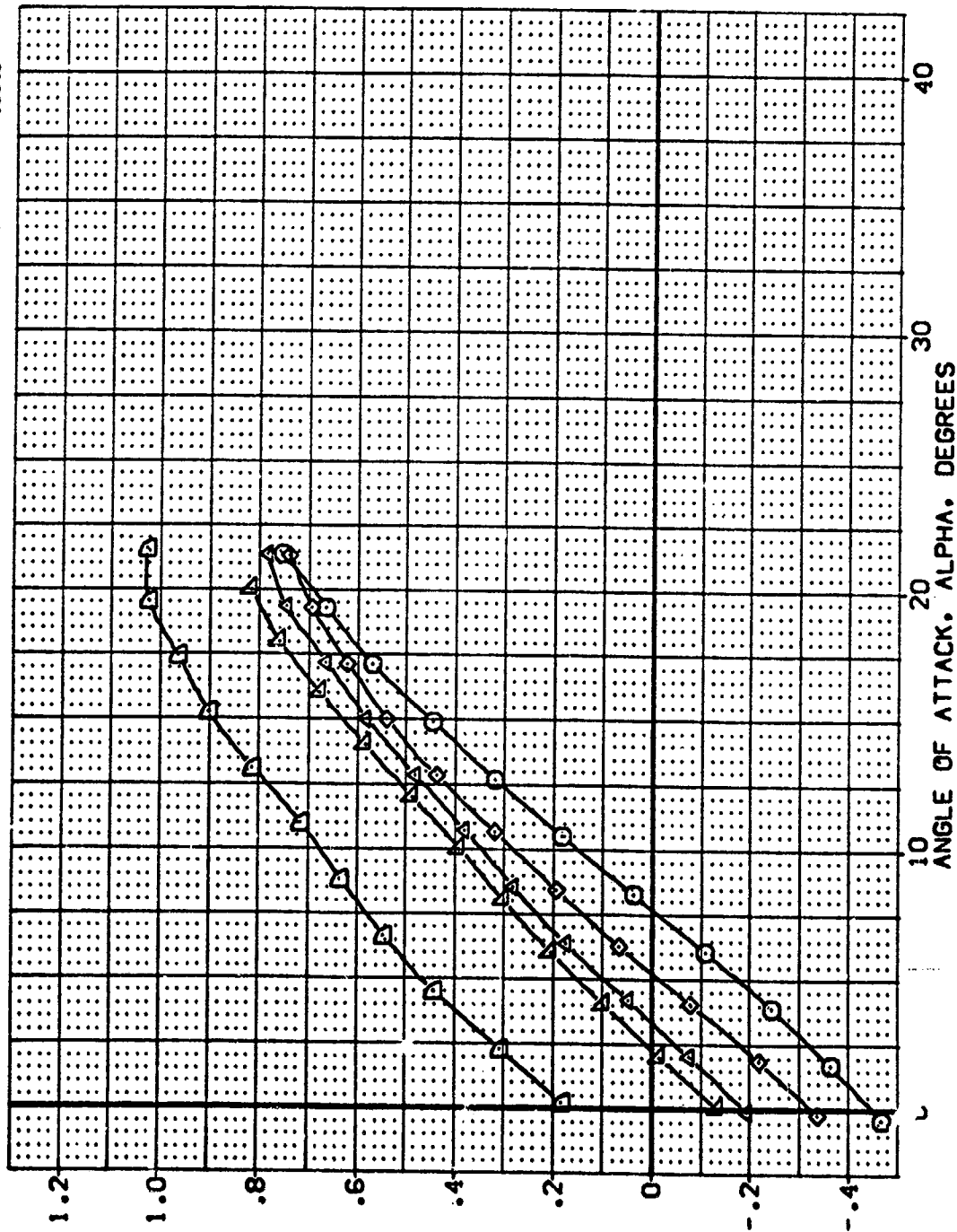
(A)MACH = .60

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 (E92002)
 (E92003)
 (E92004)
 (E92005)

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 MSC 581(OA9) DB 34-0 (BOFM) (VE)(VR)

ELEVTR BOFLAP SPOBRK AILRON
 -33.650 -11.700 25.550 -0.320
 -23.840 -11.700 25.550 -0.240
 -15.550 -11.700 25.550 -0.400
 -4.310 -11.700 25.550 -0.630
 16.790 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0040 IN.
 SCALE



LIFT COEFFICIENT, CL

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)MACH = .89

DATA SET SYMBOL: (E92001) (E92002) (E92003) (E92004) (E92005)

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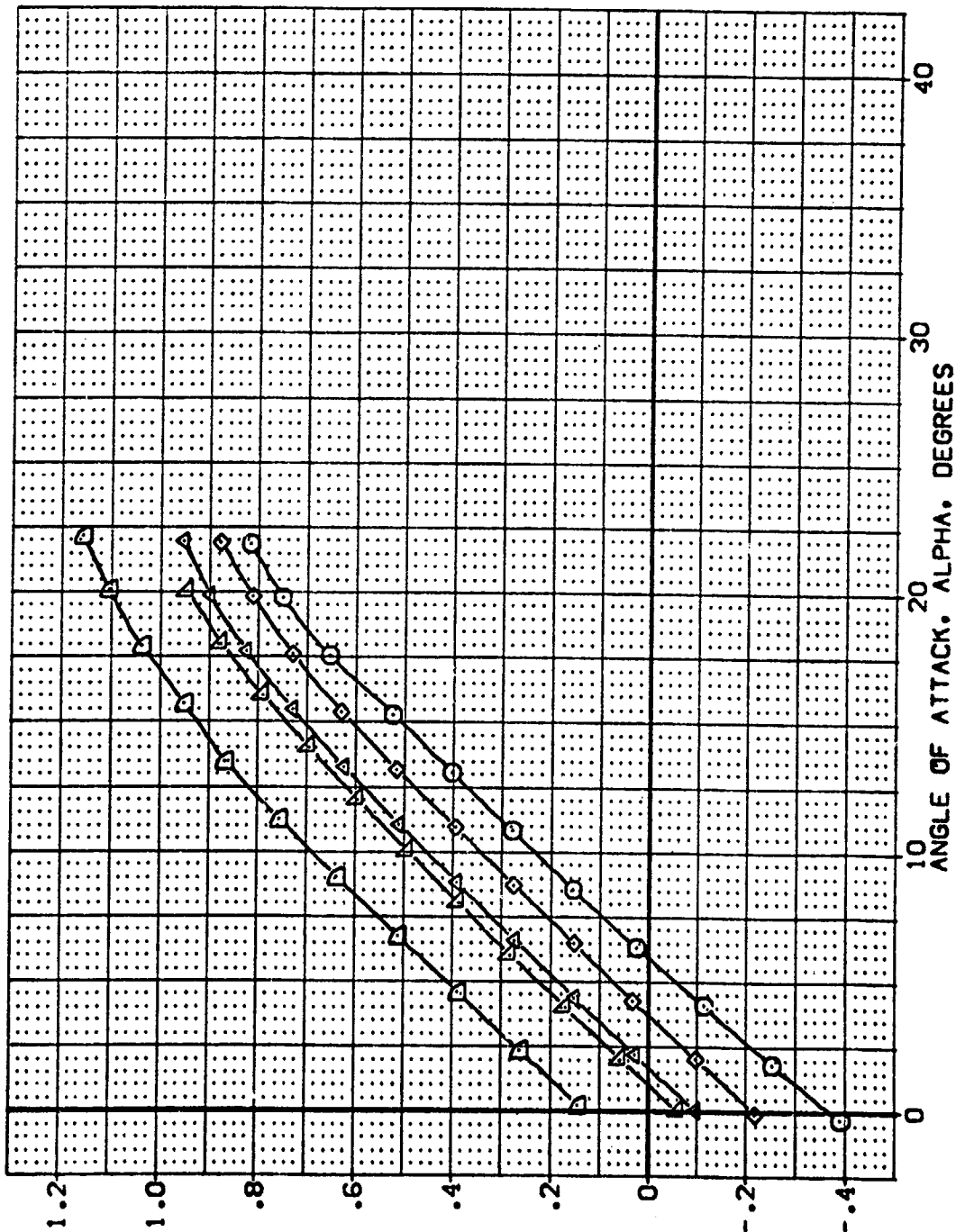
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BOFLAP: -11.700 -11.700 -11.700 -11.700 -11.700 -11.700

SPOBRK: 25.550 25.550 25.550 25.550 25.550 25.550

AILRON: -.320 -.240 -.400 -.630 -1.680

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 936.7000 IN. XMRP 1081.3900 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040



LIFT COEFFICIENT, CL

INTERPOLATED ZERO ELEVON CHARACTERISTICS

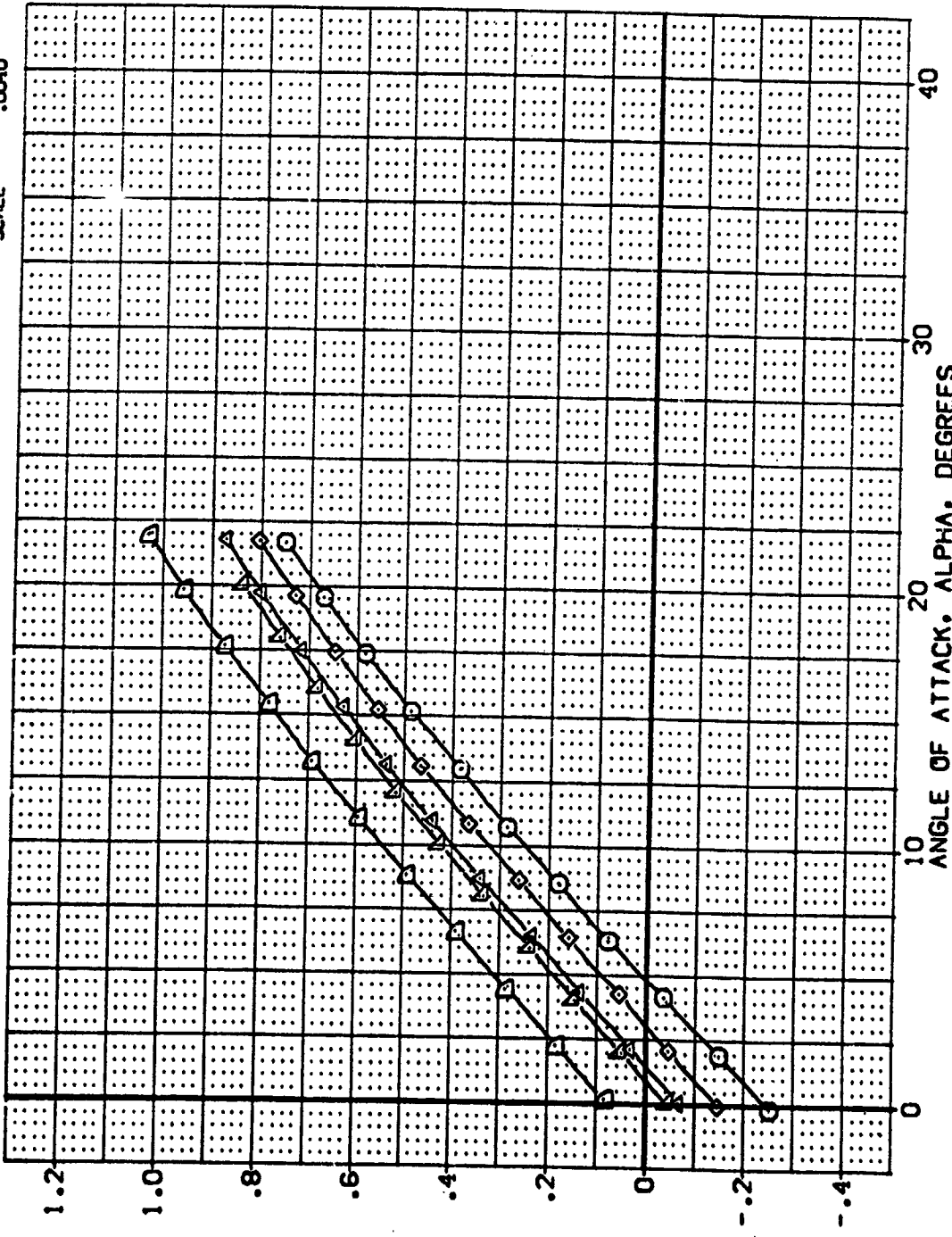
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 (E2017)
 (E2002)
 (E2003)
 (E2004)
 (E2005)

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 MSC 581 (DA49) DRB 34-0 (BCFH) (VE)(VR)
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 MSC 581 (DA49) DRB 34-0 (BCFH) (VE)(VR)

ELEVTR BDFLAP SPOBRK AILRON
 -33.650 -11.700 25.550 -0.320
 -23.840 -11.700 25.550 -0.240
 -15.550 -11.700 25.550 -0.100
 -4.310 -11.700 25.550 -0.630
 16.790 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP 0000 IN.
 ZMRP 0000 IN.
 SCALE 0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

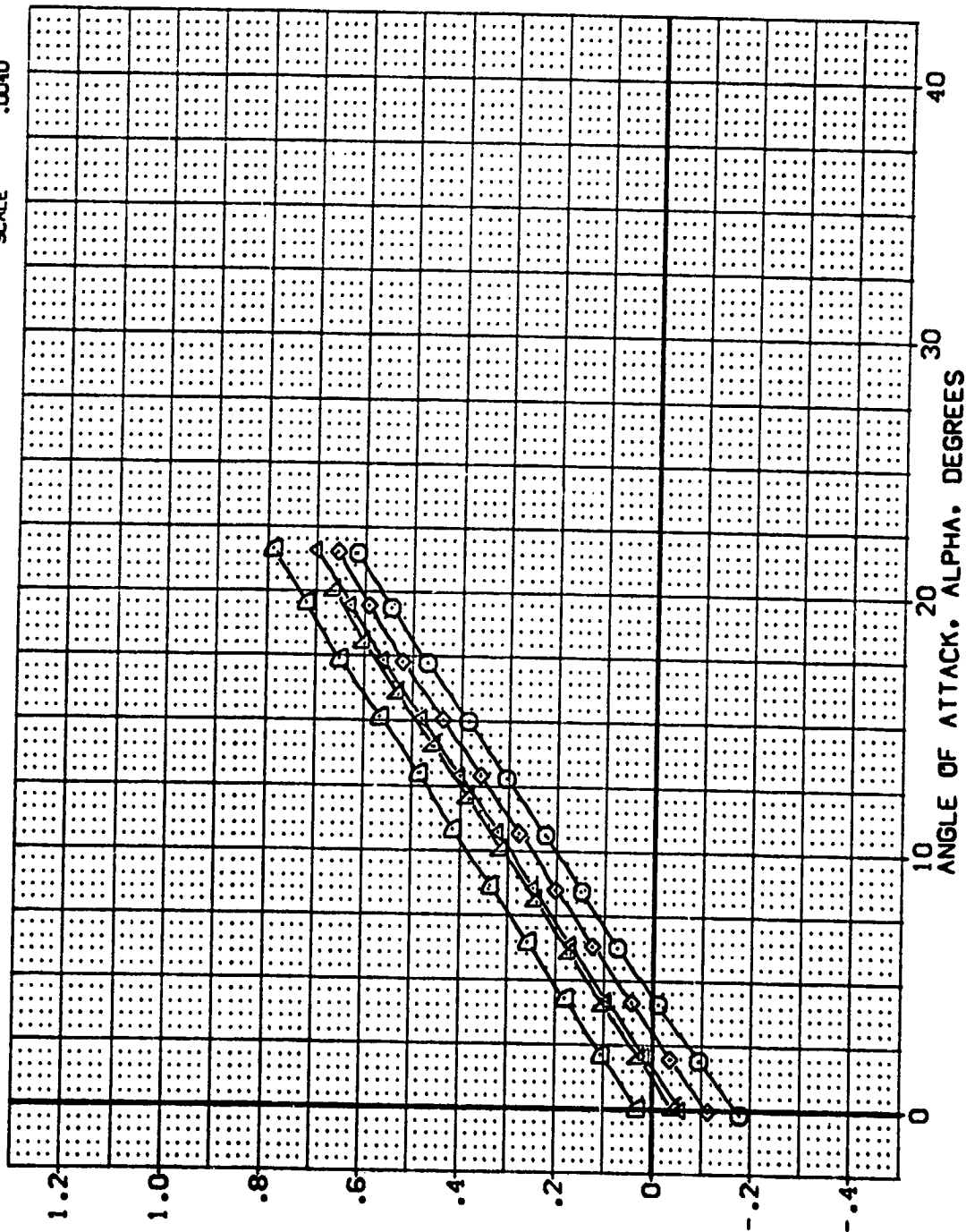
(DMACH = 1.46

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(E92002)	ORB 34-0 (BCFM)	(VE)(VR)
(E92003)	ORB 34-0 (BCFM)	(VE)(VR)
(E92004)	ORB 34-0 (BCFM)	(VE)(VR)
(E92005)	ORB 34-0 (BCFM)	(VE)(VR)

ELEVTR BDFLAP SPDBRK AILRON REFERENCE INFORMATION

ELEVTR	BDFLAP	SPDBRK	AILRON	SREF	LREF	BREF	XMRP	YMRP	ZMRP	SCALE
-33.650	-11.700	25.550	-0.320	2741.8000	481.6480	936.7000	1081.3300	0.0000	0.0000	IN.
-23.840	-11.700	25.550	-0.240							IN.
-15.550	-11.700	25.550	-0.400							IN.
-4.310	-11.700	25.550	-0.630							IN.
0.000	-11.700	25.550	-1.680							IN.
16.790	-11.700	25.550								IN.

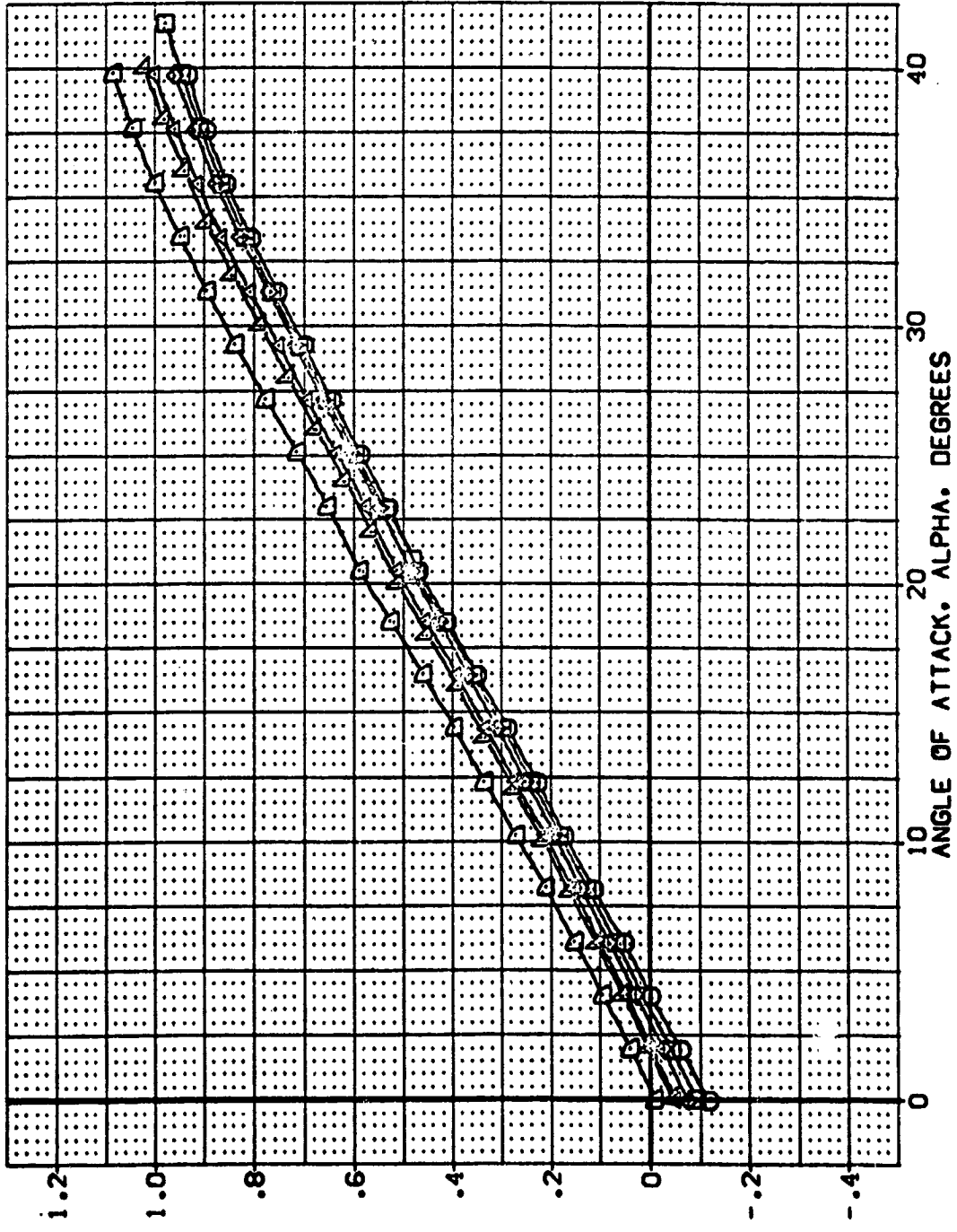


LIFT COEFFICIENT, CL

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)MACH = 1.95

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(E20001)	HSFC 581(OA19) CRB 34-0 (BOFH) (VE)(VR)	-33.650	-11.700	25.550	-.320	SREF 2741.8000 SQ. FT
(E20002)	HSFC 581(OA19) CRB 34-0 (BOFH) (VE)(VR)	-23.840	-11.700	25.550	-.240	LREF 481.6480 IN.
(E20003)	HSFC 581(OA19) CRB 34-0 (BOFH) (VE)(VR)	-15.550	-11.700	25.550	-.400	BREF 936.7000 IN.
(E20004)	HSFC 581(OA19) CRB 34-0 (BOFH) (VE)(VR)	-4.310	-11.700	25.550	-.630	XREF 1081.3000 IN.
(E20005)	HSFC 581(OA19) CRB 34-0 (BOFH) (VE)(VR)	16.750	-11.700	25.550	-1.680	YREF .0000 IN.
						ZREF .0040 IN.
						SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(F)MACH = 2.99

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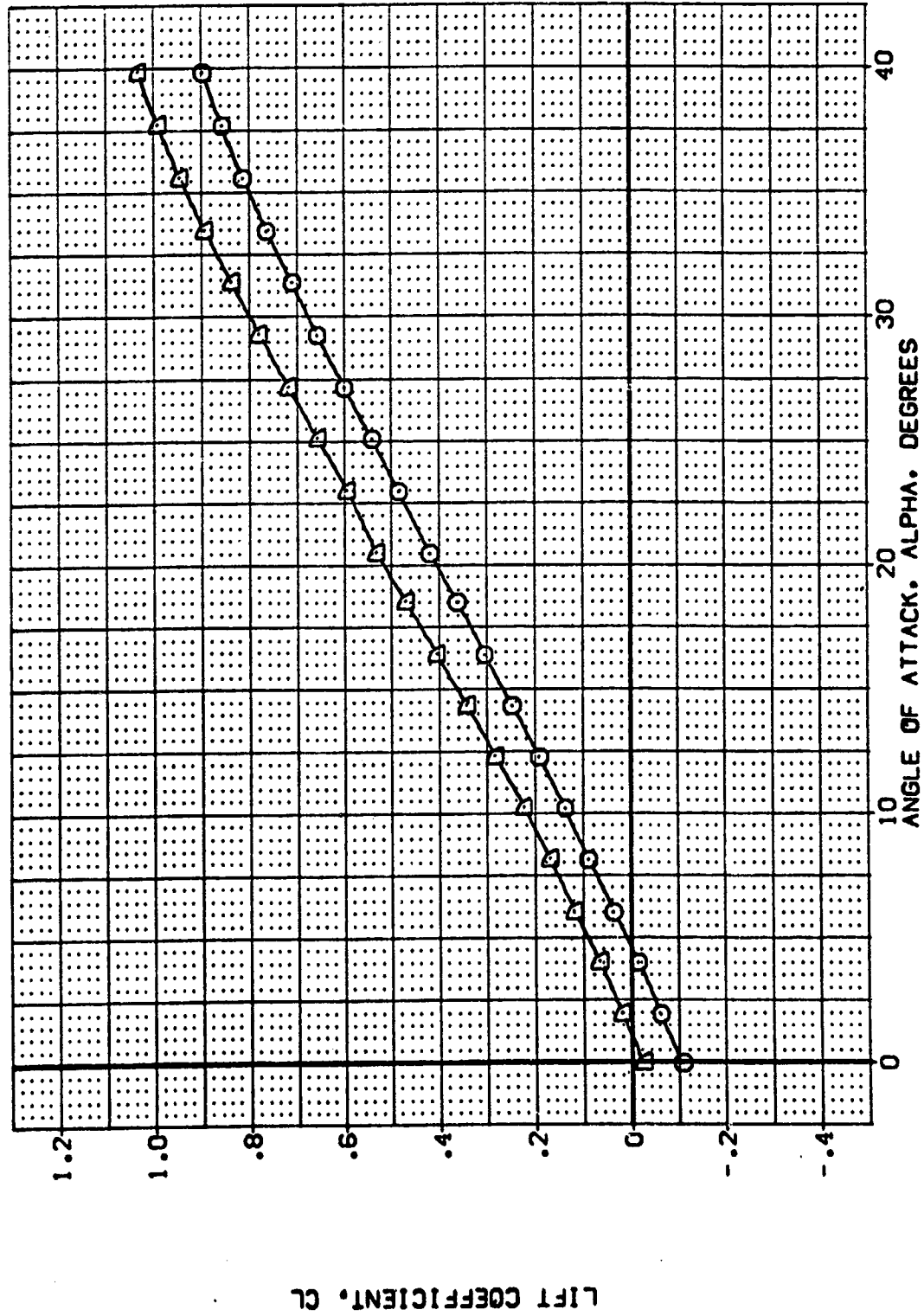
ELEVTR: -33.650 -23.840 -15.550 -4.310 -1.000 16.790

BOFLAP: -11.700 -11.700 -11.700 -11.700 -11.700 -11.700

SPOBRK: 25.550 25.550 25.550 25.550 25.550 25.550

AILRON: -.320 -.240 -.400 -.630 -1.680

REFERENCE INFORMATION: SREF 2741.8000 LREF 481.6480 BREF 936.7000 XHREF 1081.3900 YHREF .0000 ZHREF .0000 SCALE .0040



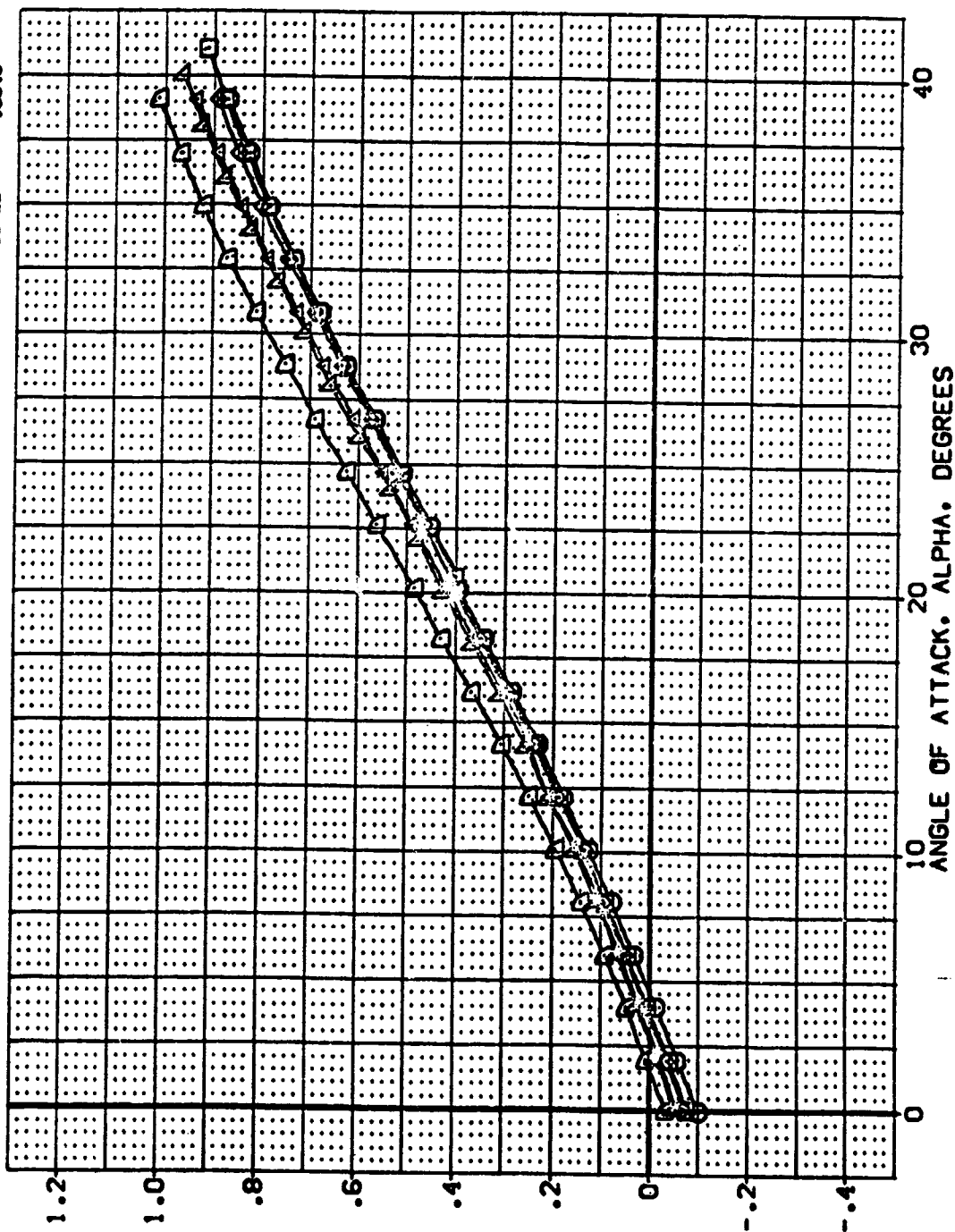
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(G)MACH = 4.00

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 (E92117) MSC 581(OA9) 088 34-0 (BDH) (VE)(VR)
 (E92002) MSC 581(OA9) 088 34-0 (BDH) (VE)(VR)
 (E92003) MSC 581(OA9) 088 34-0 (BDH) (VE)(VR)
 (E92004) MSC 581(OA9) 088 34-0 (BDH) (VE)(VR)
 (E92005) MSC 581(OA9) 088 34-0 (BDH) (VE)(VR)

ELEVTR 80FLAP SPDBRK AILTRON REFERENCE INFORMATION
 -33.650 -11.700 25.550 -320 2741.8000 90. FT
 -23.840 -11.700 25.550 -740 481.6480 IN.
 -15.550 -11.700 25.550 -400 536.7000 IN.
 -4.310 -11.700 25.550 -630 1081.3900 IN.
 16.750 -11.700 25.550 -1.680 0.0000 IN.
 SCALE 0.0010



LIFT COEFFICIENT, CL

INTERPOLATED ZERO ELEVON CHARACTERISTICS

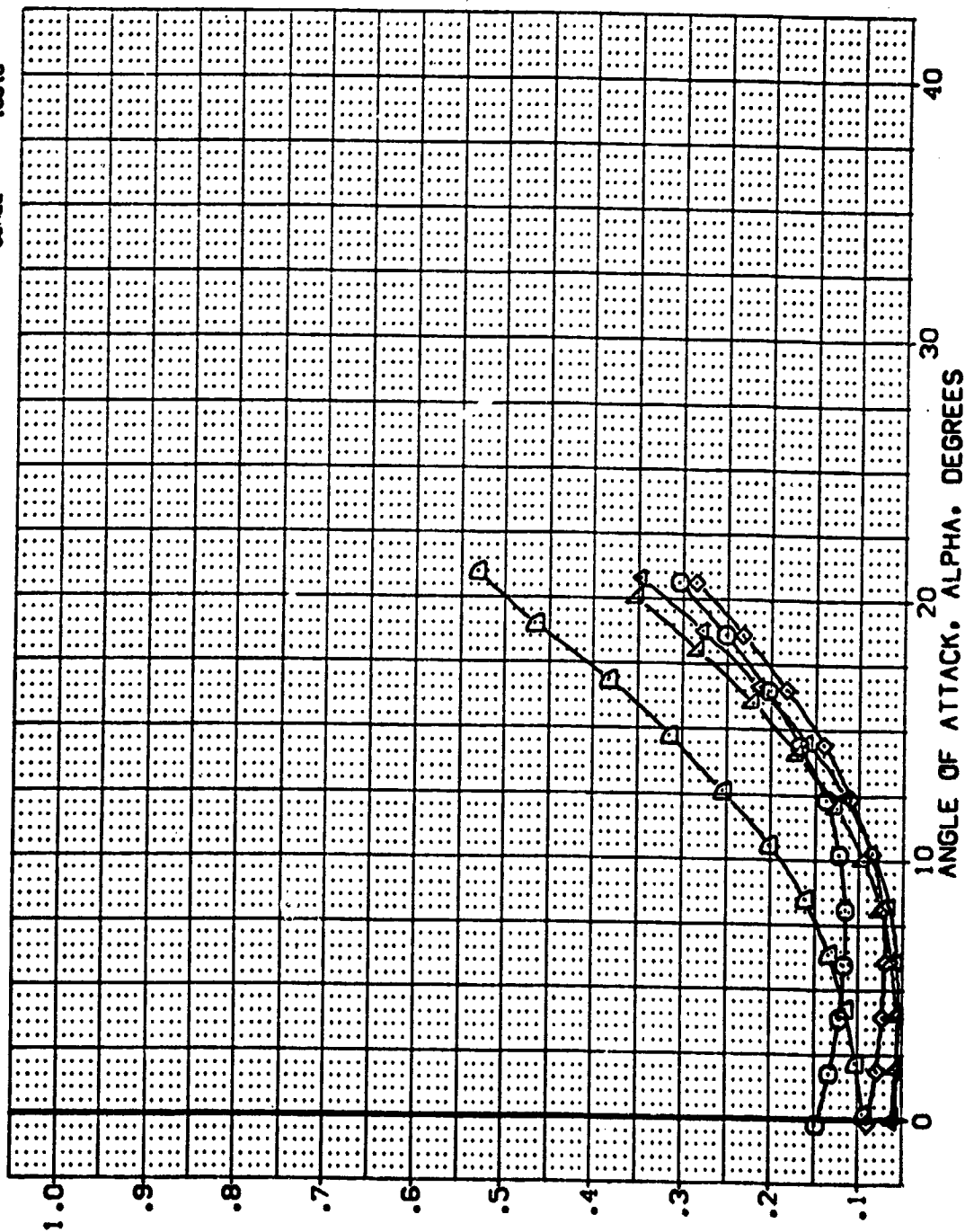
(H)MACH = 4.96

DATA SET SYMBOL. CONFIGURATION DESCRIPTION

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(E92003)	MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR)
(E92003)	MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR)
(E92004)	MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR)
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ELEVTR BDFLAP SPOBRK ALLRON REFERENCE INFORMATION SQ. FT

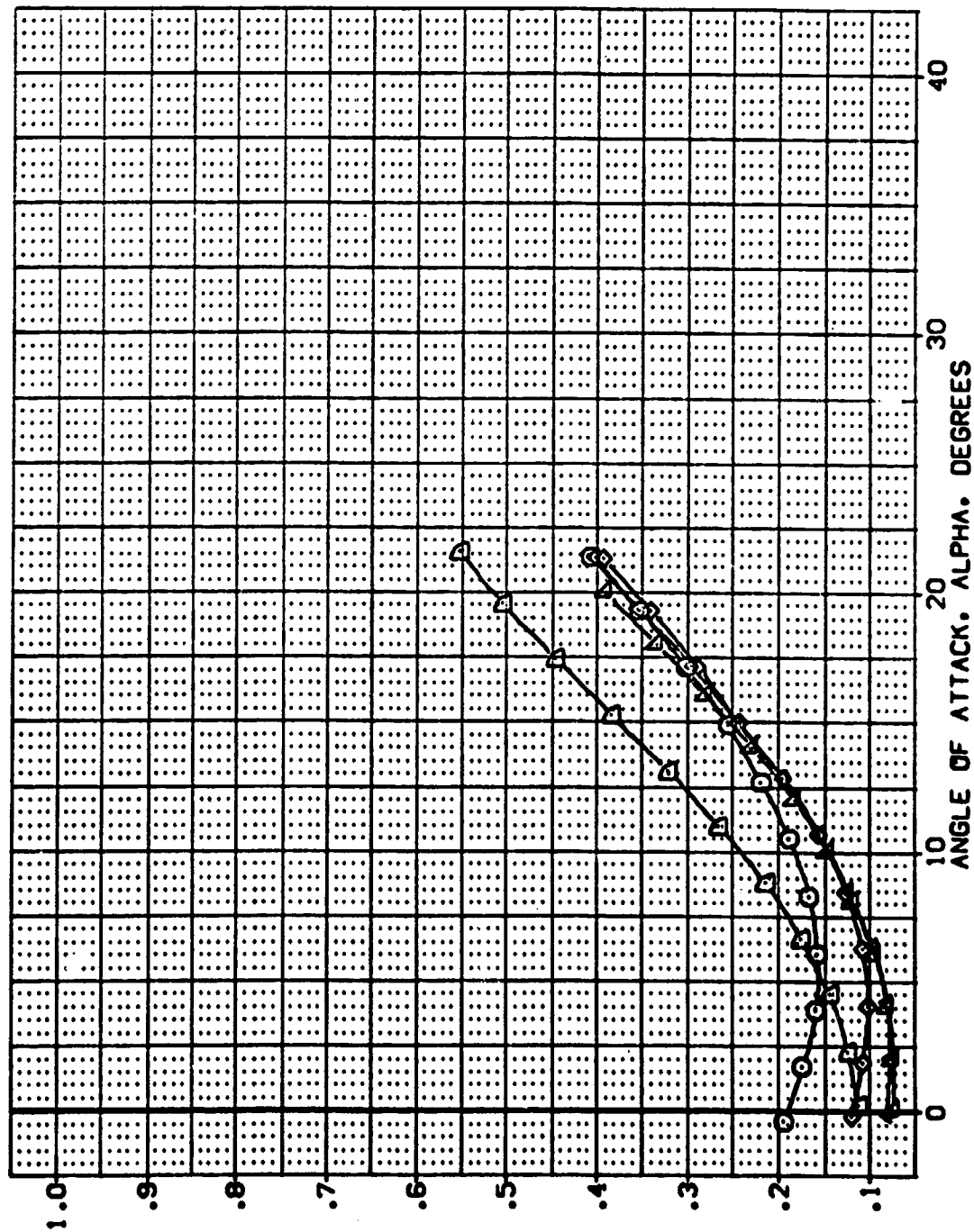
-30.650	-11.700	25.550	-1.320	SREF	2741.8000	IN.
-23.840	-11.700	25.550	-1.240	LREF	481.6480	IN.
-15.550	-11.700	25.550	-1.400	BREF	935.7000	IN.
-4.310	-11.700	25.550	-1.630	XMRP	1081.3900	IN.
.000	-11.700	25.550	-1.680	YMRP	.0000	IN.
16.790	-11.700	25.550	-1.680	ZMRP	.0000	IN.
				SCALE	.0040	



DATA SET SYMBOL
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 [E2117]
 [E2202]
 [E2303]
 [E2404]
 [E2505]

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ELEVIR BOFLAP SPDBRK AILRON REFERENCE INFORMATION SO. FT
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 -23.840 -11.700 25.550 -.240 LREF 481.6480
 -15.550 -11.700 25.550 -.400 BREF 936.7000
 -4.310 -11.700 25.550 -.630 XMRP 1081.3500
 .000 -11.700 25.550 .0000 YMRP
 16.750 -11.700 25.550 -1.680 ZMRP
 SCALE .0040

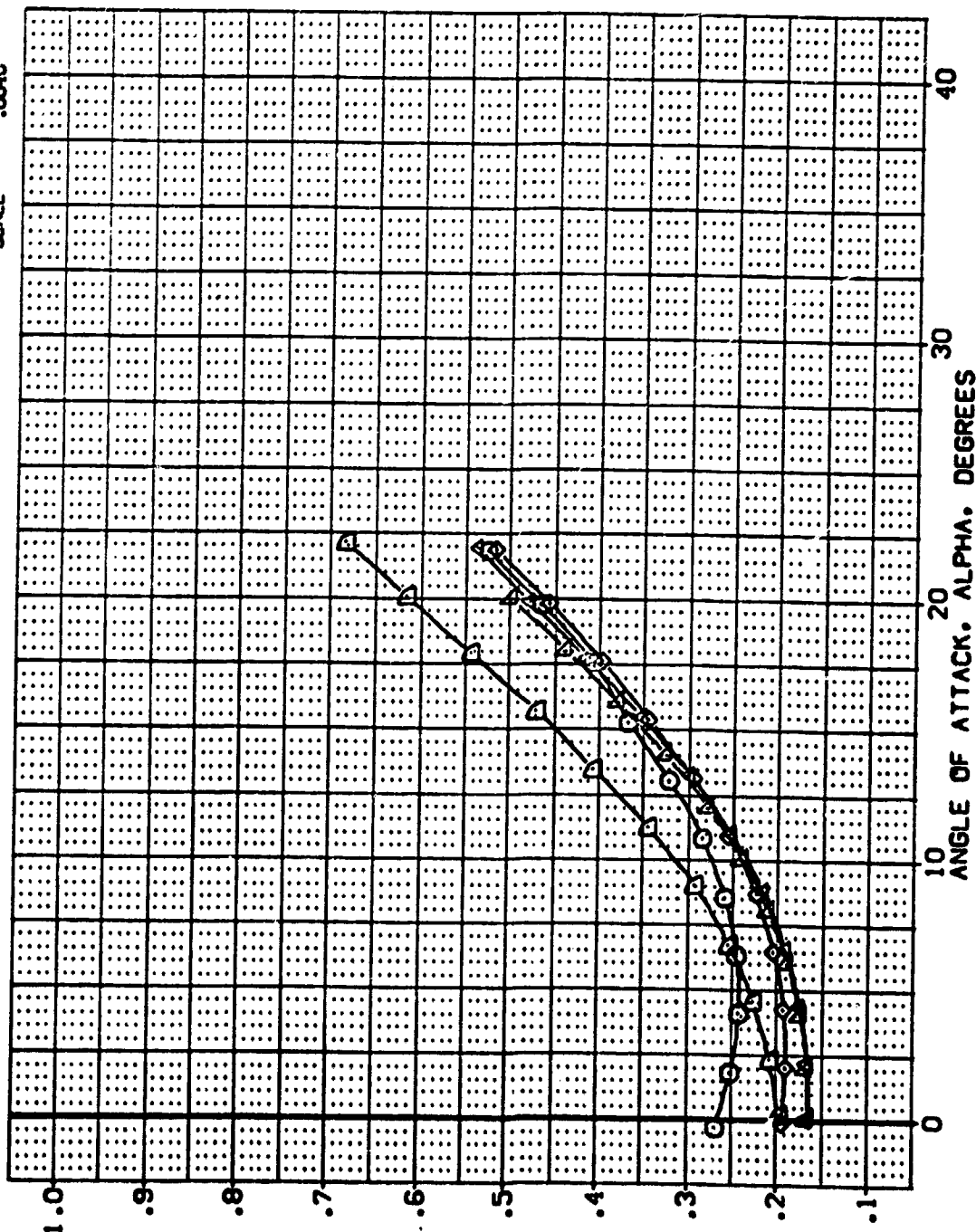


DRAG COEFFICIENT, CD

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)MACH = .89

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDCLAP	SPDRBK	AILTRON	REFERENCE INFORMATION
(E92001)	MSFC S81(DA49) DRB 34-0 (BCFM) (VE)(VR)	-30.650	-11.700	25.550	-1.220	SREF 2741.8000 SQ. FT
(E92117)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-1.240	LREF 481.6480 IN.
(E92002)	MSFC S81(DA49) DRB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-1.400	BREF 936.7000 IN.
(E92003)	MSFC S81(DA49) DRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-1.630	XMRP 1081.3900 IN.
(E92004)	MSFC S81(DA49) DRB 34-0 (BCFM) (VE)(VR)	16.000	-11.700	25.550	-1.680	ZMRP .0000 IN.
(E92005)	MSFC S81(DA49) DRB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	SCALE .0040

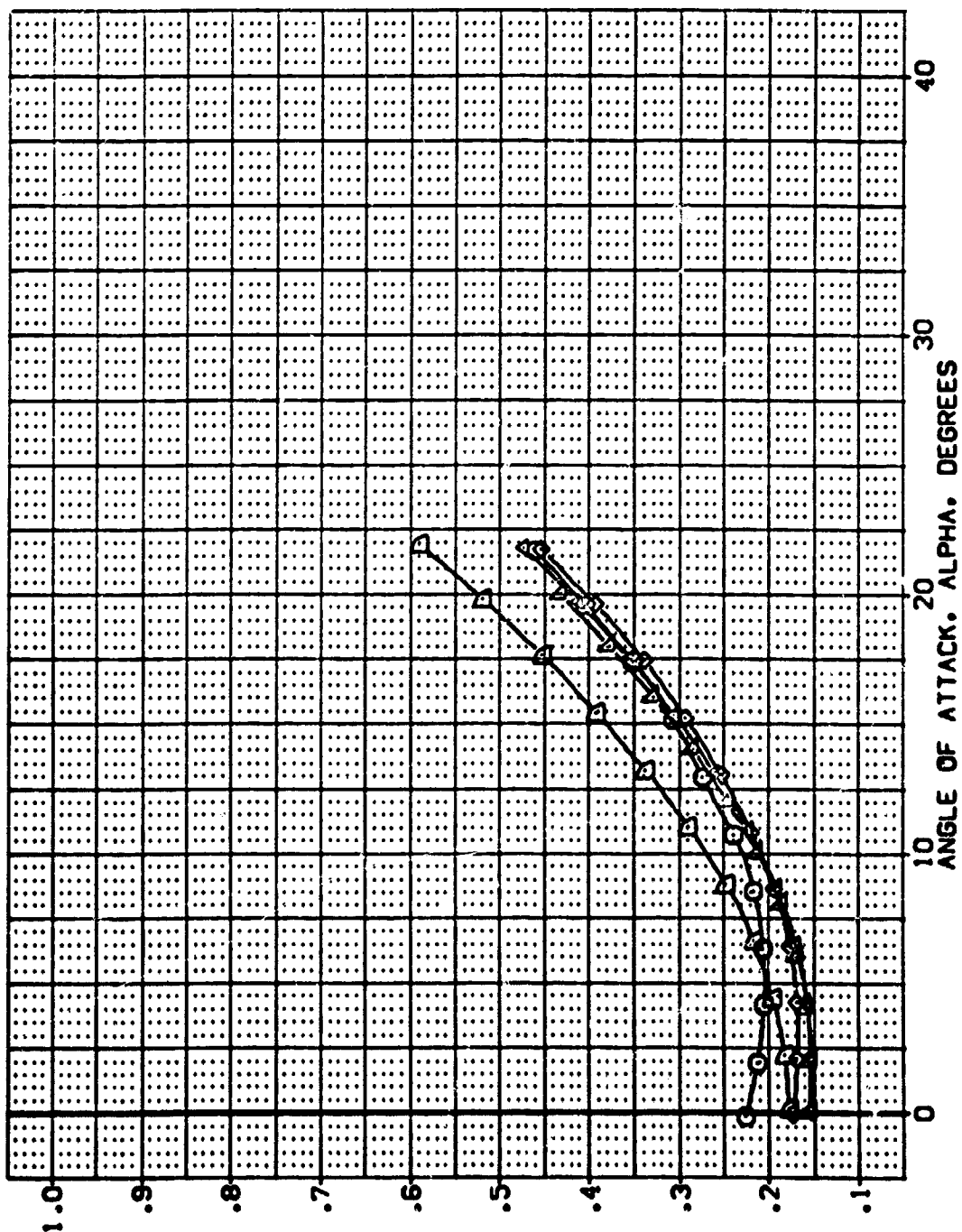


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)MACH = 1.20

DATA SET SYMBOL: **000000**

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DATA NOT AVAILABLE	-23.840	-11.700	25.550	-240	LREF	481.6480
MSFC SBI(OA49) DB 34-0 (BDTH) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF	936.7000
MSFC SBI(OA49) DB 34-0 (BDTH) (VE)(VR)	-4.310	-11.700	25.550	-630	XHAP	1081.3900
MSFC SBI(OA49) DB 34-0 (BDTH) (VE)(VR)	.000	-11.700	25.550	-1.680	YHAP	.0000
MSFC SBI(OA49) DB 34-0 (BDTH) (VE)(VR)	16.790	-11.700	25.550		ZHAP	.0040
					SCALE	



INTERPOLATED ZERO ELEVON CHARACTERISTICS

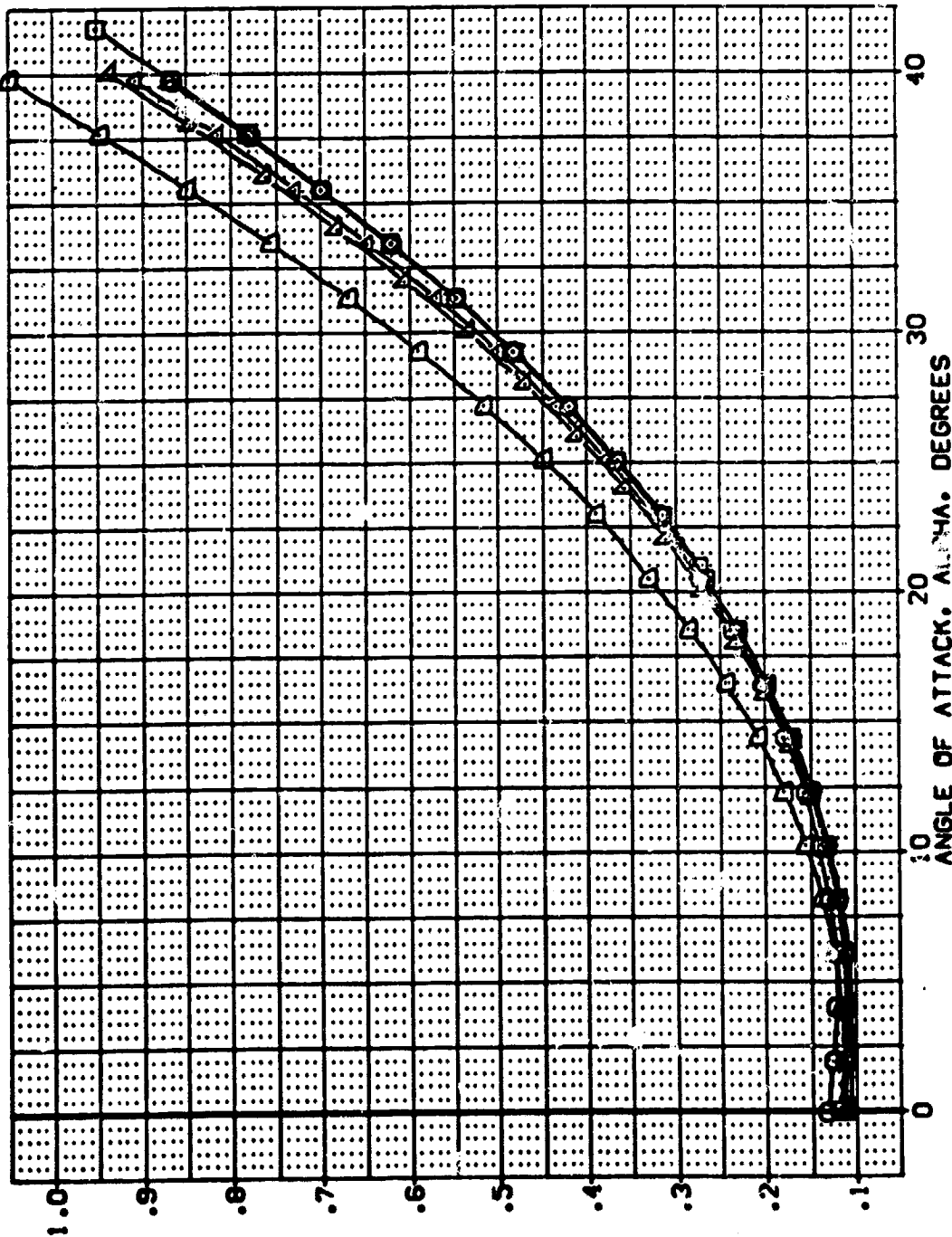
(D)MACH = 1.46

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 {E92002}
 {E92003}
 {E92004}
 {E92005}

DATA SET SHEET

CONFIGURATION DESCRIPTION	ELEVATION	REFLAP	SPURIN	AIRLON	REFERENCE INFORMATION
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000003	000	000	000	000	000
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INTERPOLATED ZERO ELEVON CHARACTERISTICS

(F)MACH = 2.99

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(E92001) MSC 581(QA9) ORB 34-0 (BCFM) (VE' R)

(E92117) DATA NOT AVAILABLE

(E92002) DATA NOT AVAILABLE

(E92003) DATA NOT AVAILABLE

(E92004) DATA NOT AVAILABLE

(E92005) MSC 581(QA9) ORB 34-0 (BCFM) (VE)(VR)

ELEVTR BOFLAP SPOBRK AILRON REFERENCE INFORMATION

-23.650 -11.700 25.550 -1.680 2741.8000 SO: FT

-23.010 -11.700 25.550 -1.680 481.6180 IN:

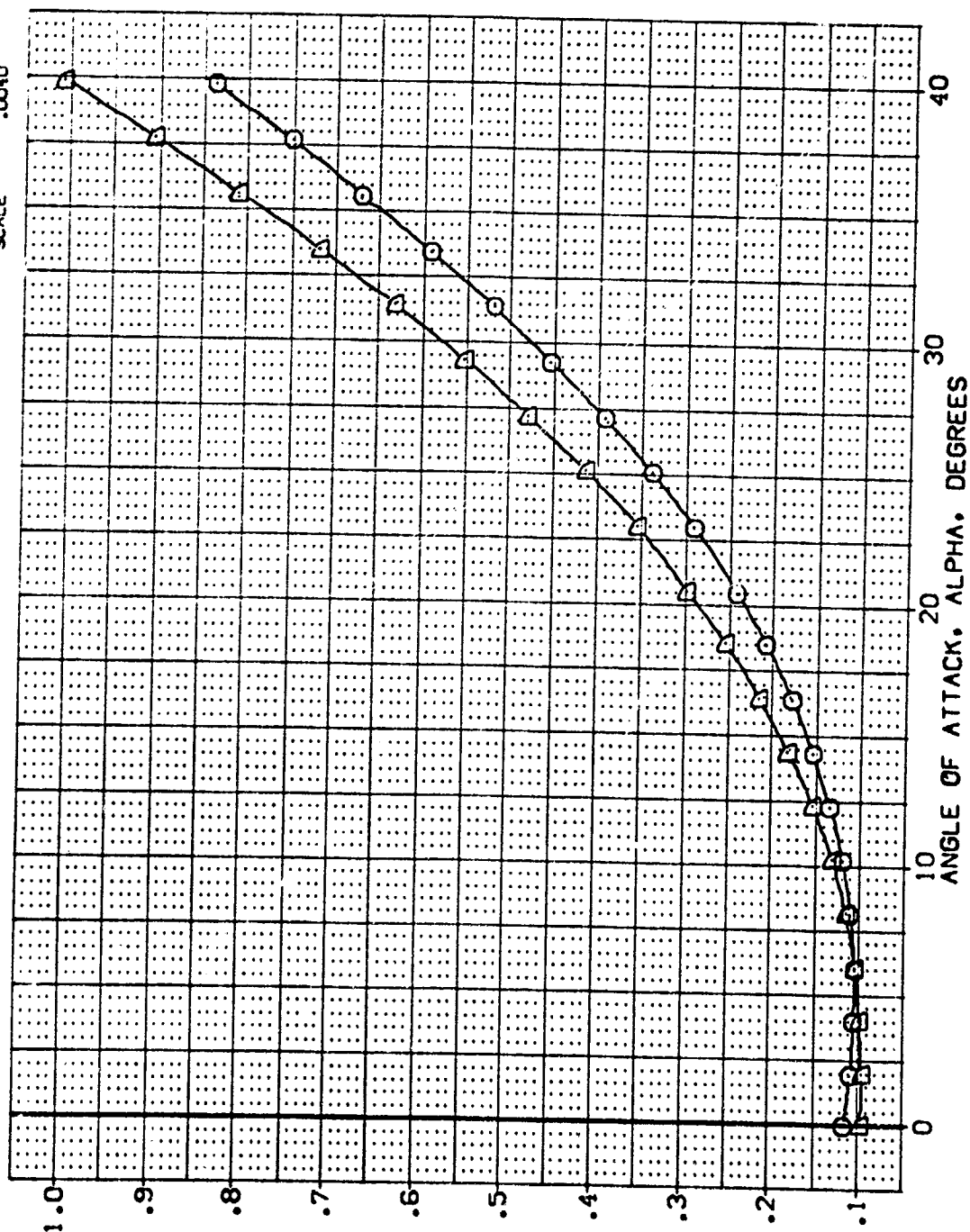
-15.550 -11.700 25.550 -1.680 936.7000 IN:

-4.310 -11.700 25.550 -1.680 1081.3500 IN:

.000 -11.700 25.550 -1.680 .0030 IN:

15.750 -11.700 25.550 -1.680 .0040 IN:

SCALE

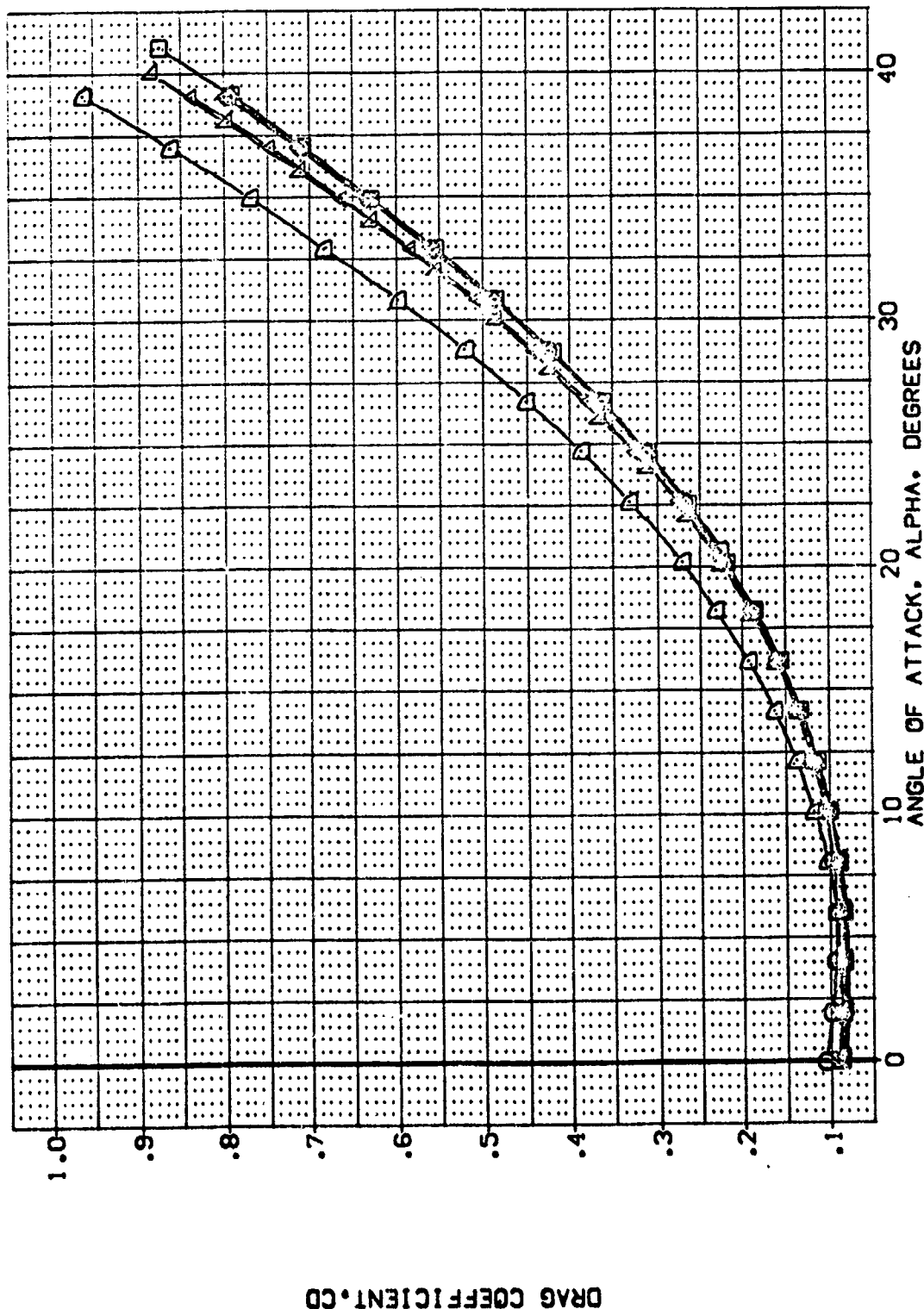


DRAW COEFFICIENT, CD

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(GMACH = 4.00

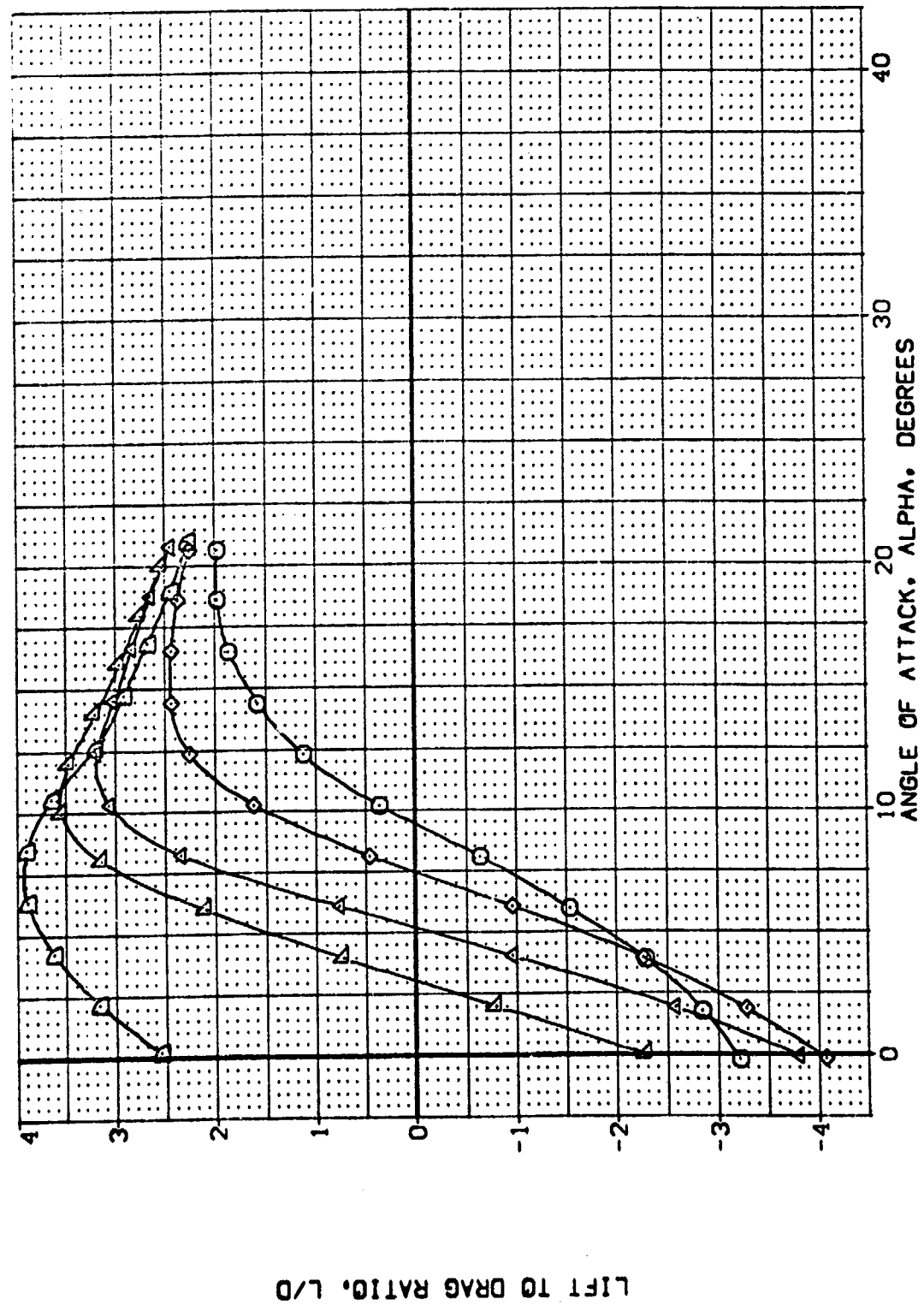
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AIRLRN	REFERENCE INFORMATION
(E97001)	MSFC S81(OA49) CRB 34-0 (BCFM) (VE)(VR)	-23.650	-11.700	25.550	-1.680	SREF 2741.8000 SQ. FT
(E97002)	MSFC S81(OA49) CRB 34-0 (BCFM) (VE)(VR)	-23.840	-11.700	25.550	-1.680	LREF 481.5480 IN.
(E97003)	MSFC S81(OA49) CRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-1.680	BREF 936.7000 IN.
(E97004)	MSFC S81(OA49) CRB 34-0 (BCFM) (VE)(VR)	.000	-11.700	25.550	-1.680	XHRR 1081.3500 IN.
(E97005)	MSFC S81(OA49) CRB 34-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	YHRR .0000 IN.
						ZHRR .0040 IN.
						SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(M)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(E92001)	MSFC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	-33.550	-11.700	25.550	-.320	SREF 2741.8000 SO. FT
(E92117)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-.240	LREF 481.6480 IN.
(E92002)	MSFC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-.400	BREF 936.7000 IN.
(E92003)	MSFC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-.630	XMRP 1081.3500 IN.
(Z92004)	MSFC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	.000	-11.700	25.550		YMRP .0000 IN.
(E92005)	MSFC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZMRP .0000 IN.
						SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(A)MACH = .60

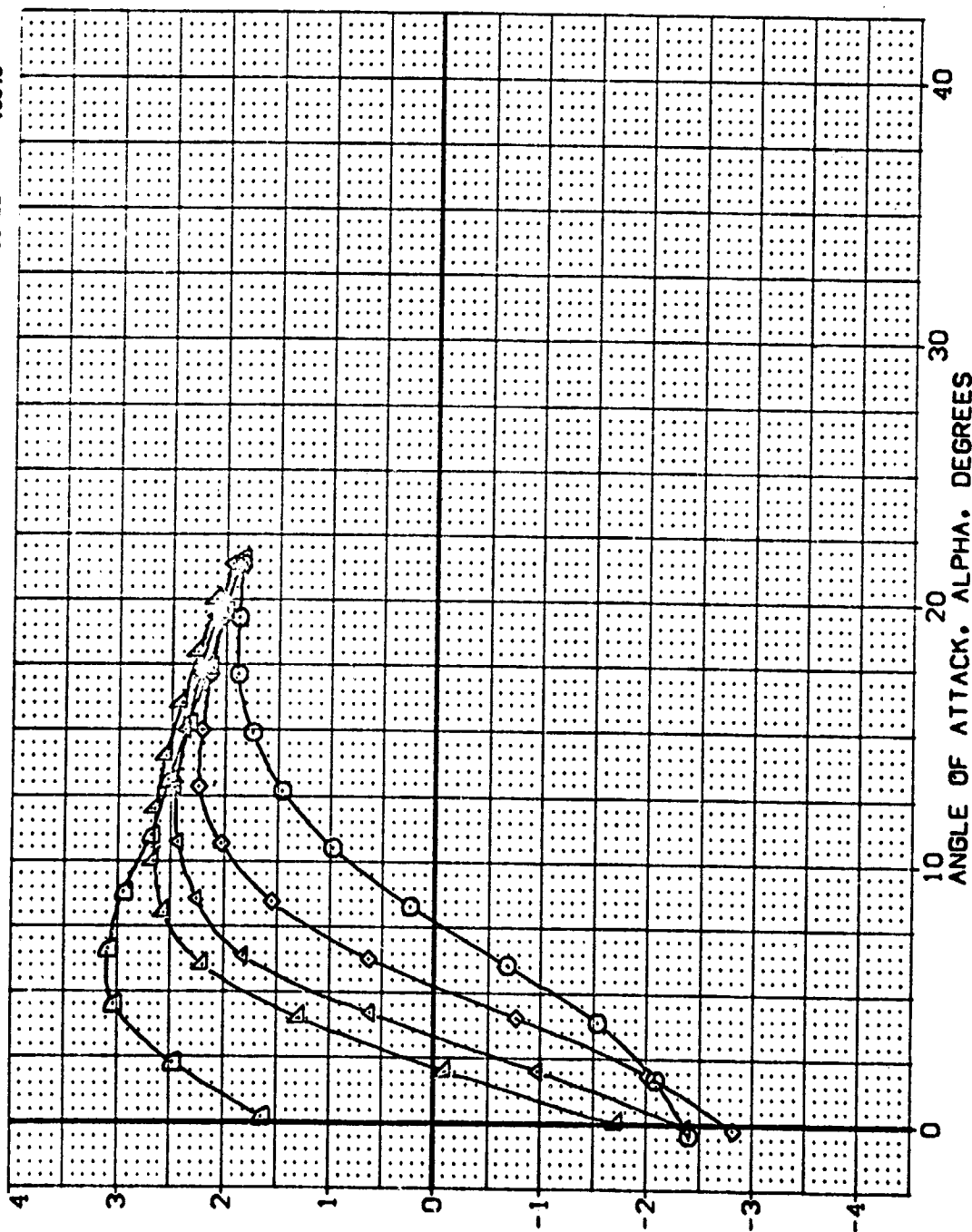
DATA SET SYMBOL
 (E92001)
 (E92117)
 (E92002)
 (E92003)
 (E92004)
 (E92005)

CONFIGURATION DESCRIPTION
 MSFC S81(DA19) ORB 34-0 (BCFM) (VE)(VR)
 DATA NOT AVAILABLE
 MSFC S81(DA19) ORB 34-0 (BCFM) (VE)(VR)
 MSFC S81(DA19) ORB 34-0 (BCFM) (VE)(VR)
 MSFC S81(DA19) ORB 34-0 (BCFM) (VE)(VR)
 MSFC S81(DA19) ORB 34-0 (BCFM) (VE)(VR)

ELEVTR BOFLAP SPOBRK AILRON
 -23.650 -11.700 25.550 -0.320
 -23.840 -11.700 25.550 -0.240
 -15.550 -11.700 25.550 -0.400
 -4.310 -11.700 25.550 -0.630
 16.790 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 YMRP 1081.3800 IN.
 ZMRP 1000 IN.
 SCALE .0040

LIFT TO DRAG RATIO, L/D

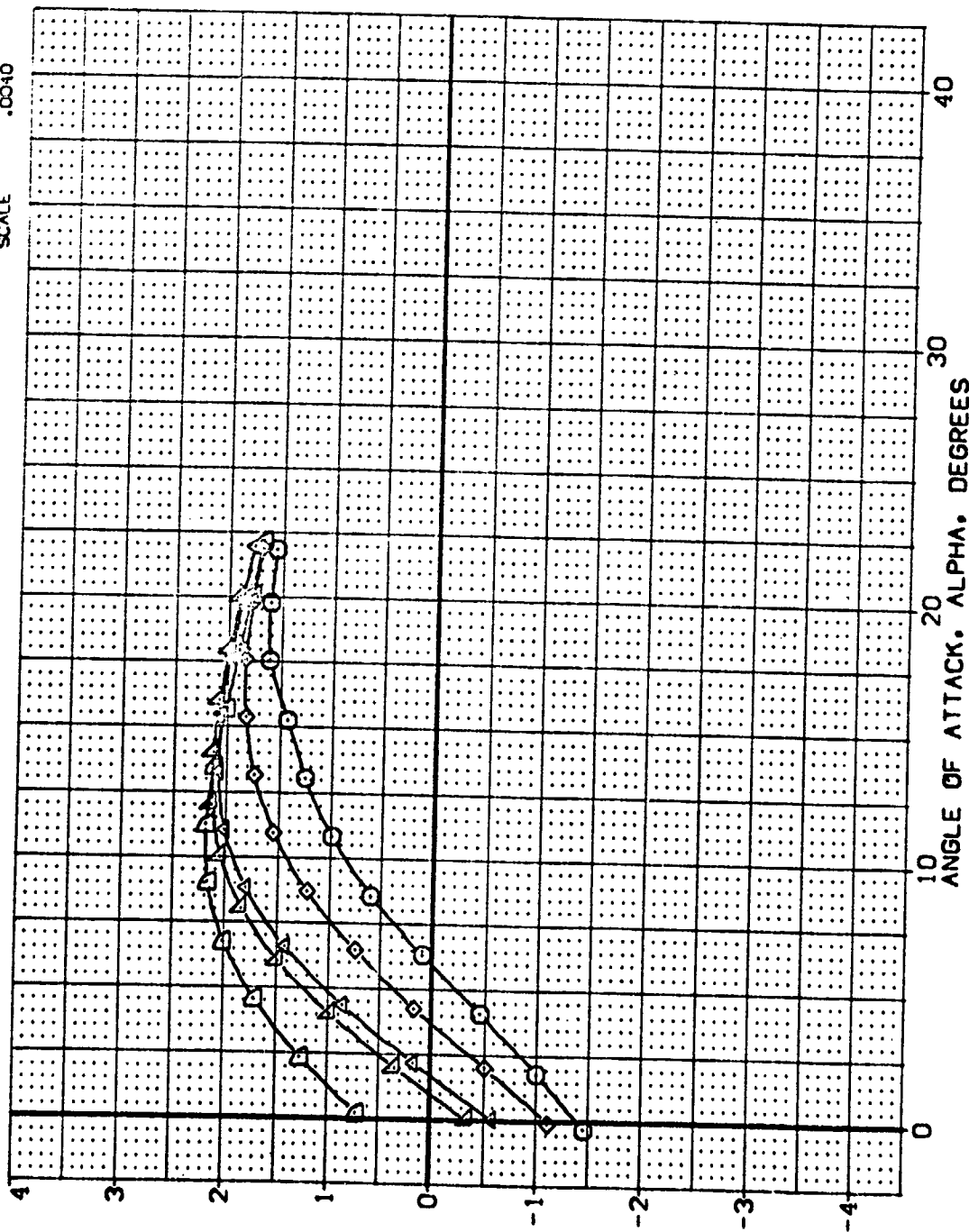


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)MACH = .89

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPDRBK	AILRON	REFERENCE INFORMATION	SO. FT
(E92001)	MSFC 581 (DA19) ORB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-0.370	SREF	2741.8000
(E92002)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-0.240	LREF	481.6480
(E92003)	MSFC 581 (DA19) ORB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF	936.7000
(E92004)	MSFC 581 (DA19) ORB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP	1081.3900
(E92005)	MSFC 581 (DA19) ORB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZMRP	.0000
						SCALE	.0040

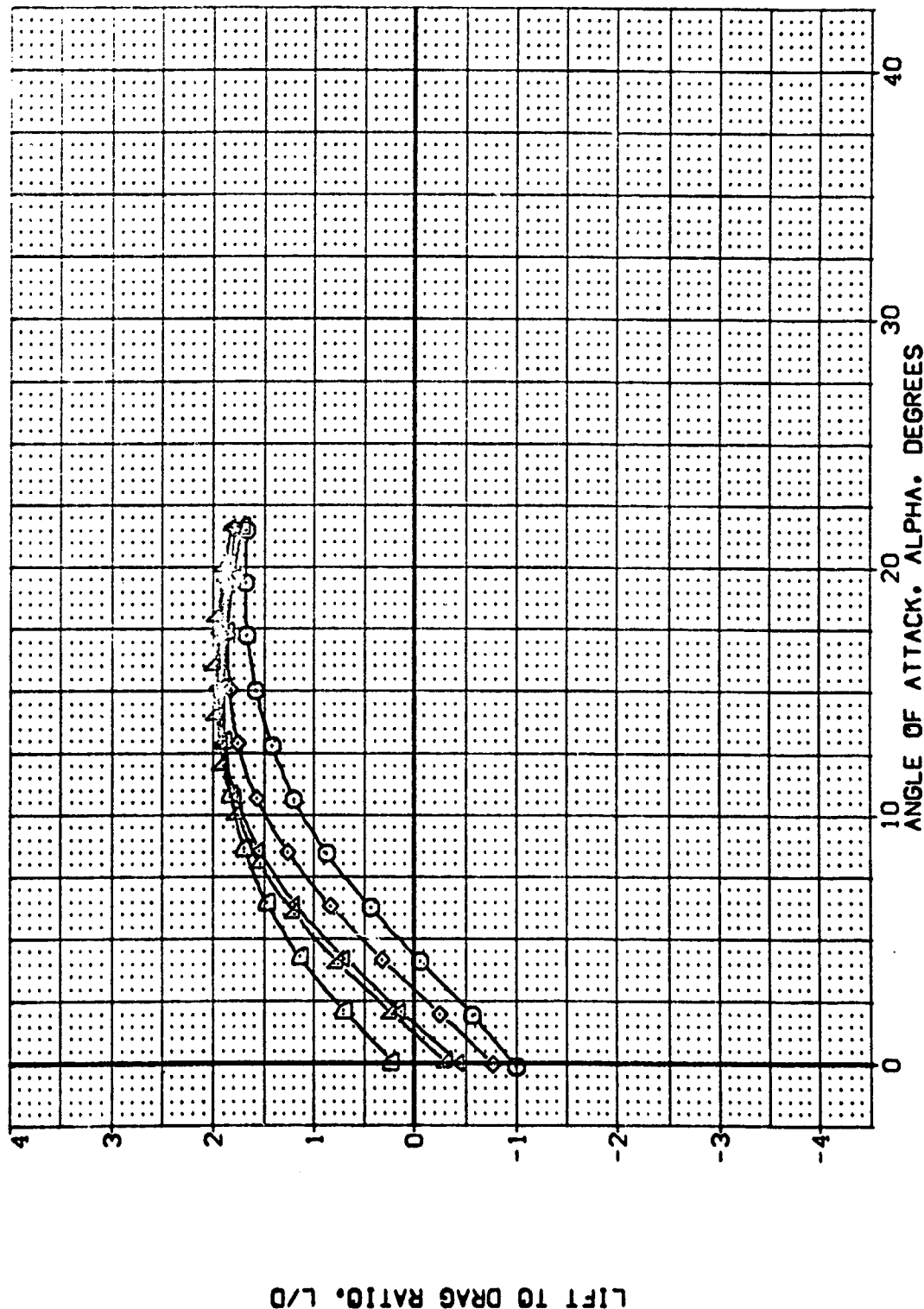


LIFT TO DRAG RATIO, L/D

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(CJ)MACH = 1.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(E92001)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(E92117)	DATA NOT AVAILABLE	-23.810	-11.700	25.550	-0.240	LREF 481.6480 IN.
(E92002)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
(E92003)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP 1081.3900 IN.
(Z92004)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	.000	-11.700	25.550	.000	YMRP .0000 IN.
(E92005)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZMRP .0040 IN.
						SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS

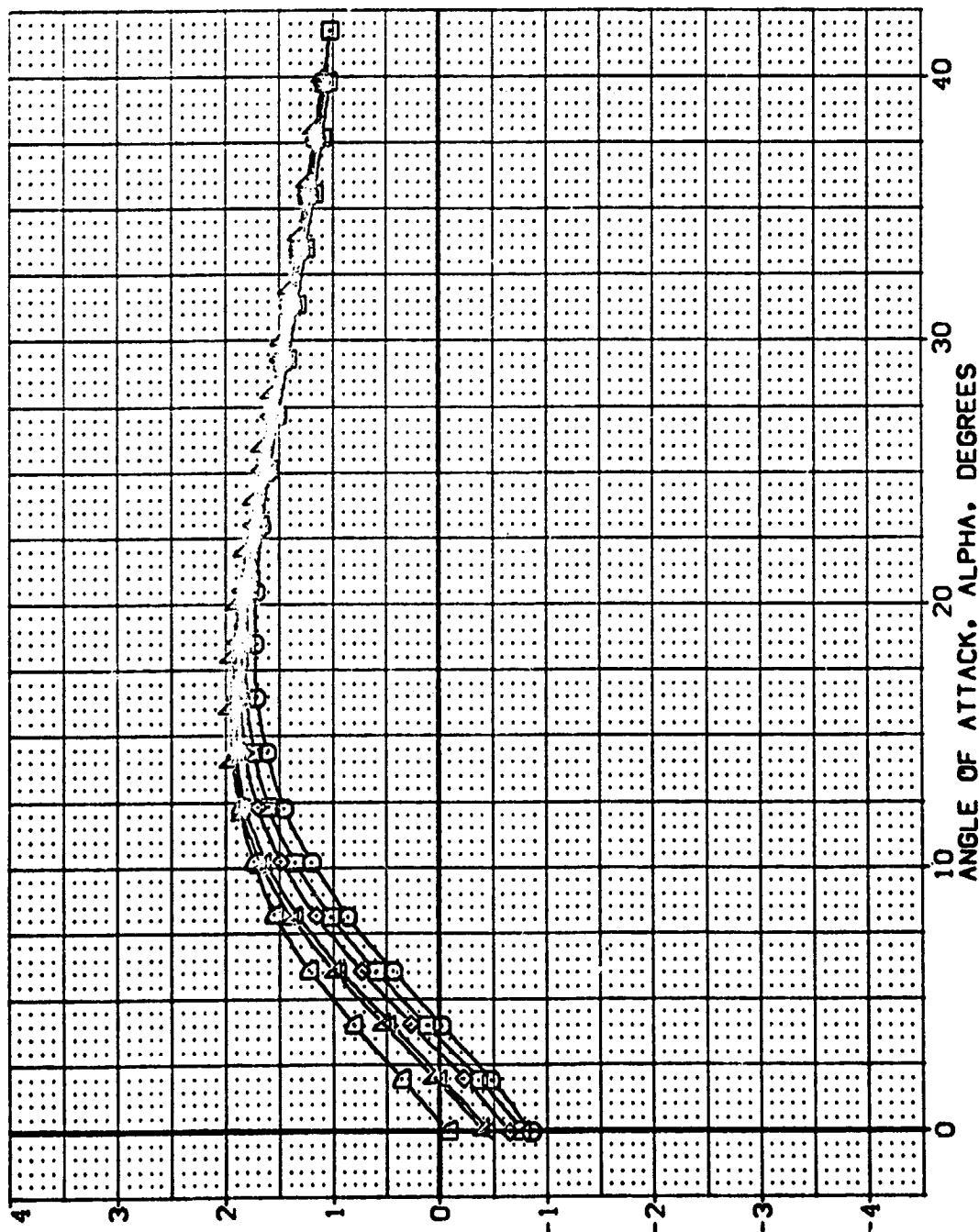
(E)MACH = 1.95

DATA SET SYMBOL: (E92001) (E92002) (E92003) (E92004) (E92005)

CONFIGURATION DESCRIPTION: MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR) MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR) MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR) MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR) MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR)

ELEVTR 80FLAP 80DBK AILRON REFERENCE INFORMATION SQ. FT

ELEVTR	80FLAP	80DBK	AILRON	SREF	LREF	BREF	XMRP	YMRP	ZMRP	SCALE
-33.650	-11.700	25.550	-0.320	2741.8000	481.6480	936.7000	1081.3900	.0000	.0000	.0040
-23.810	-11.700	25.550	-0.240							
-15.550	-11.700	25.550	-0.400							
-4.310	-11.700	25.550	-0.630							
.000	-11.700	25.550	-1.680							

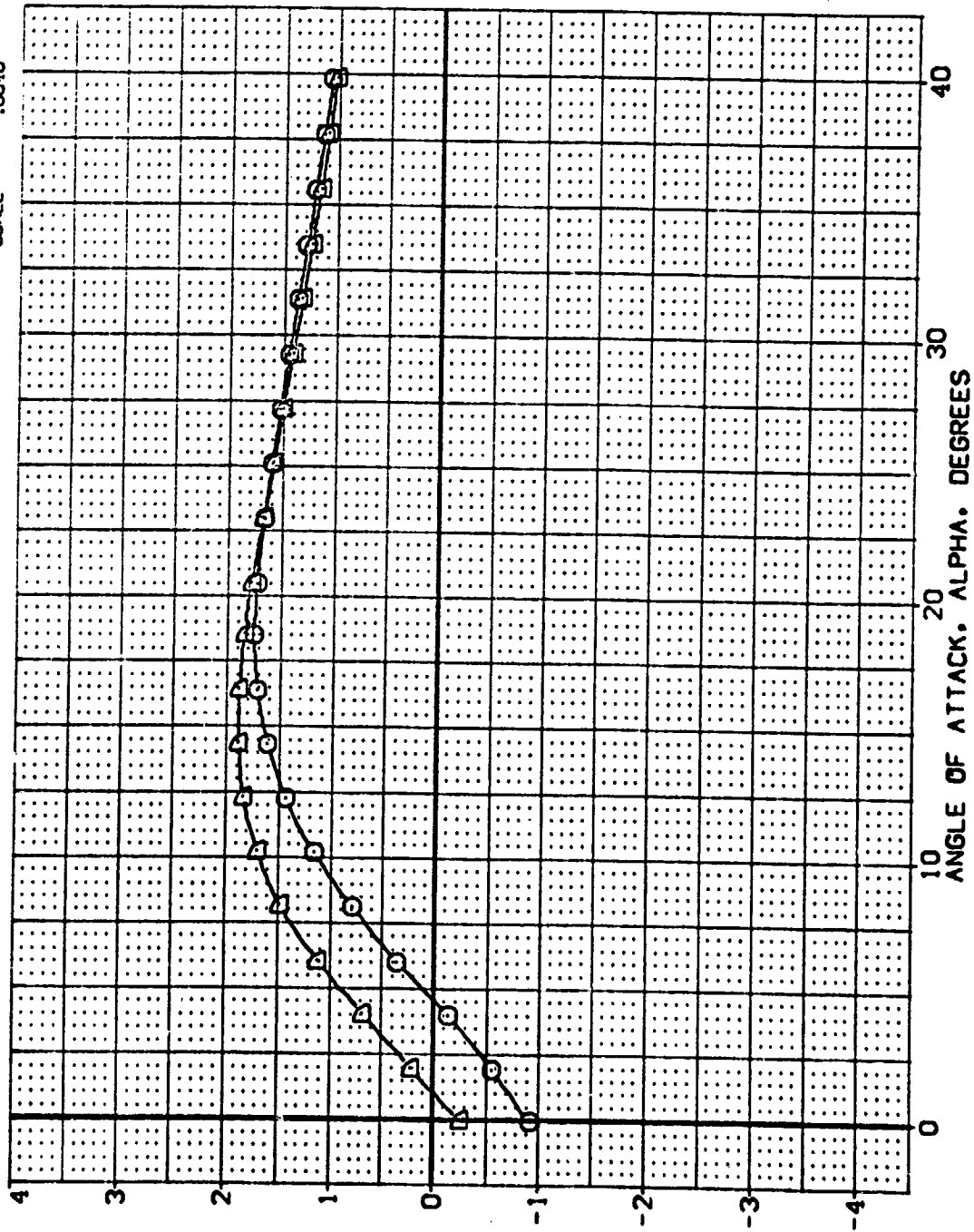


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(F)MACH = 2.99

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BC/LAP	SPDRBK	ALTRON	SREF	2741.8000	SQ. FT
(E92001)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-1.320	LREF	481.6480	IN.
(E92017)	DATA NOT AVAILABLE	-23.810	-11.700	25.550	-1.400	BREF	936.7000	IN.
(E92002)	DATA NOT AVAILABLE	-15.550	-11.700	25.550	-1.630	XMRP	1081.2900	IN.
(E92003)	DATA NOT AVAILABLE	-4.310	-11.700	25.550	-1.680	YMRP	.0000	IN.
(E92004)	DATA NOT AVAILABLE	.000	-11.700	25.550		ZMRP	.0000	IN.
(E92005)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550		SCALE	.0040	



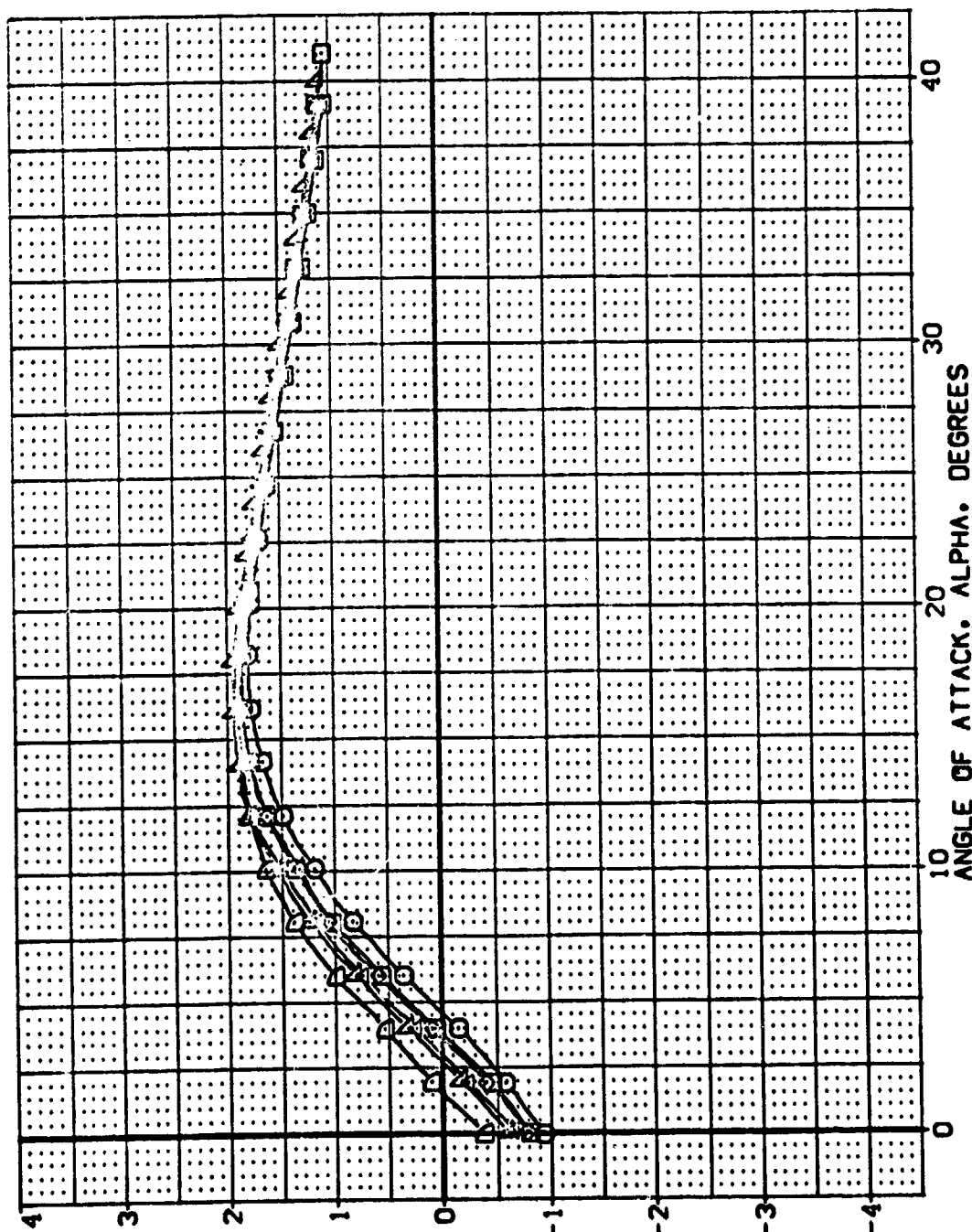
LIFT TO DRAG RATIO, L/D

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(G)MACH = 4.00

LIFT TO DRAG RATIO, L/D

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AIRON	REFERENCE INFORMATION	SO. FT
(E92001)	MSFC 581(DA49) ORB 34-0 (BCFH) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF	2741.8000
(E92117)	MSFC 581(DA49) ORB 34-0 (BCFH) (VE)(VR)	-23.810	-11.700	25.550	-0.210	LREF	481.6480
(E92002)	MSFC 581(DA49) ORB 34-0 (BCFH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF	936.7000
(E92003)	MSFC 581(DA49) ORB 34-0 (BCFH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP	1081.3900
(E92004)	MSFC 581(DA49) ORB 34-0 (BCFH) (VE)(VR)	16.750	-11.700	25.550	-1.680	YMRP	1000.0000
(E92005)	MSFC 581(DA49) ORB 34-0 (BCFH) (VE)(VR)					ZMRP	1000.0000
						SCALE	

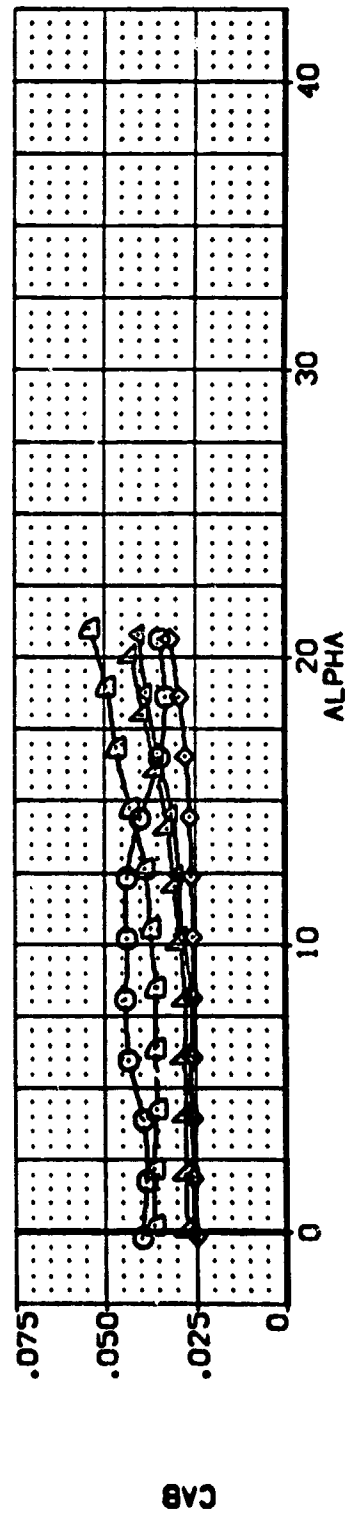
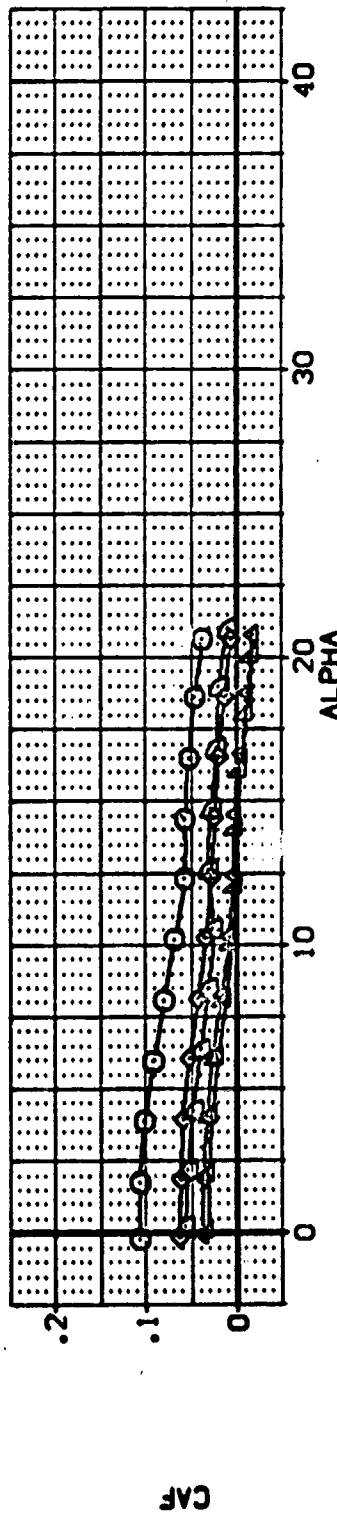
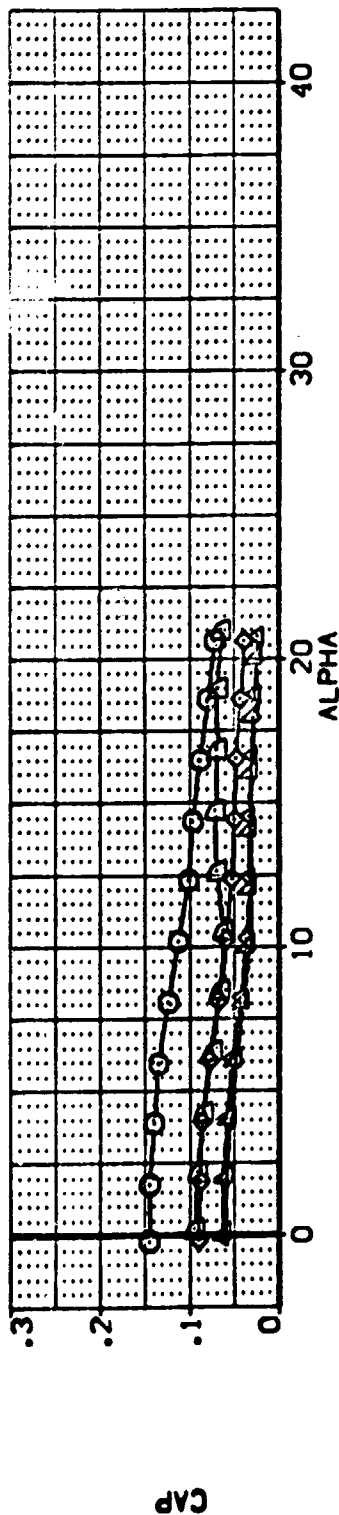


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(H)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

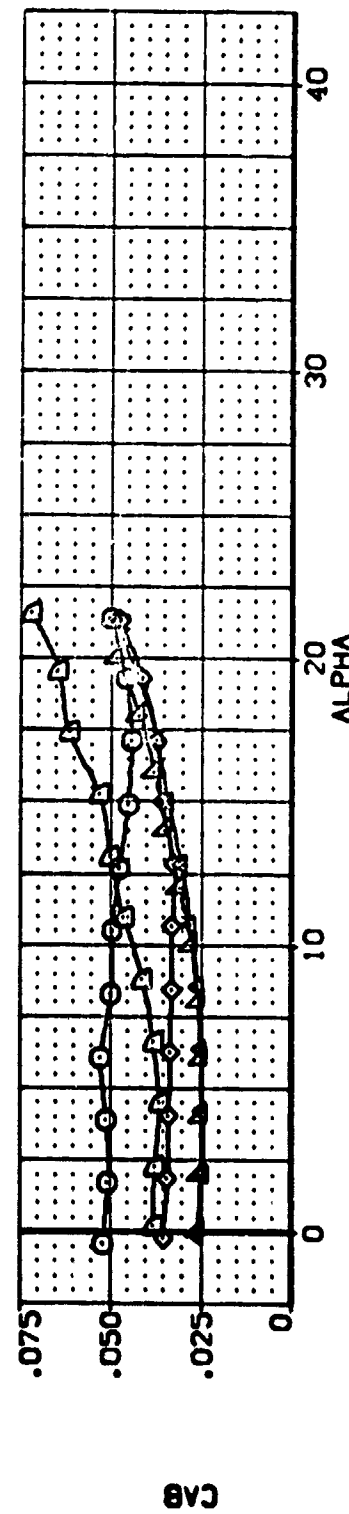
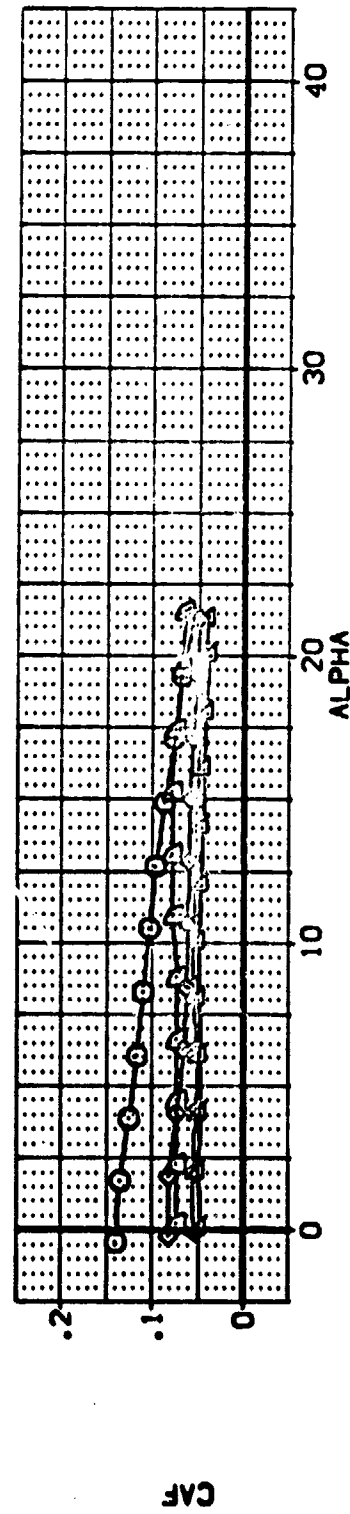
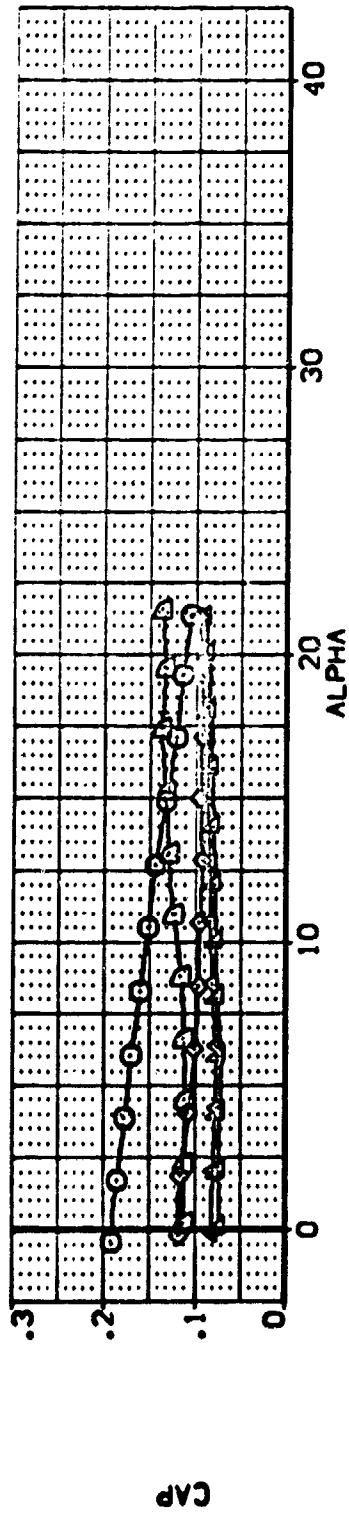
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPOBRK	AILRON	SRF	27.1.8000	SO. FT
(E92001)	MFC 581 (DA49) DRB 34-0 (BDFH) (VE)(VR)	-33.650	-11.700	25.550	-1.320	SRF	27.1.8000	SO. FT
(E92117)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-2.410	LREF	481.6480	IN.
(E92002)	MFC 581 (DA49) DRB 34-0 (BDFH) (VE)(VR)	-15.550	-11.700	25.550	-4.00	BREF	93.7000	IN.
(E92003)	MFC 581 (DA49) DRB 34-0 (BDFH) (VE)(VR)	-4.310	-11.700	25.550	-6.30	XMRP	1081.3900	IN.
(E92004)	MFC 581 (DA49) DRB 34-0 (BDFH) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZMRP	.0000	IN.
(E92005)	MFC 581 (DA49) DRB 34-0 (BDFH) (VE)(VR)					SCALE	.0040	



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(A)MACH = .60

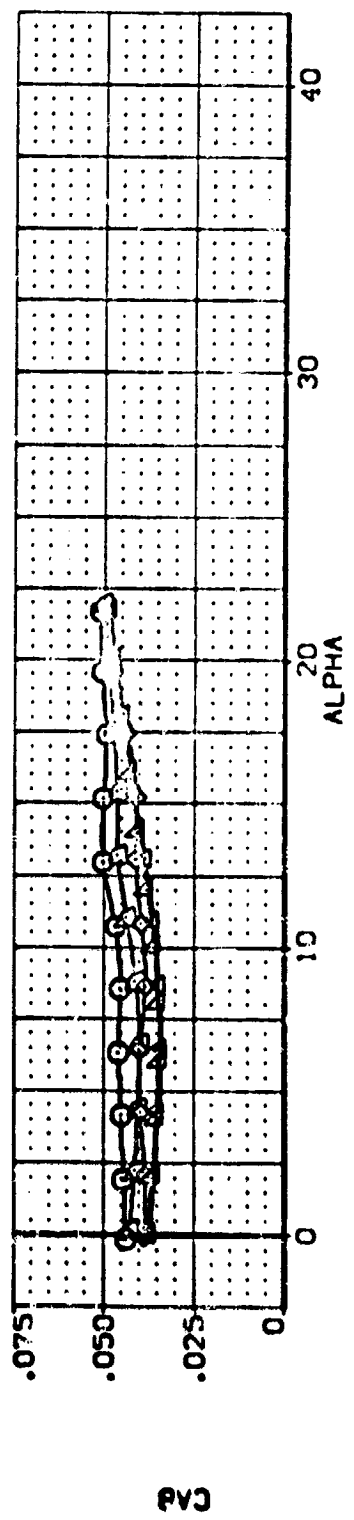
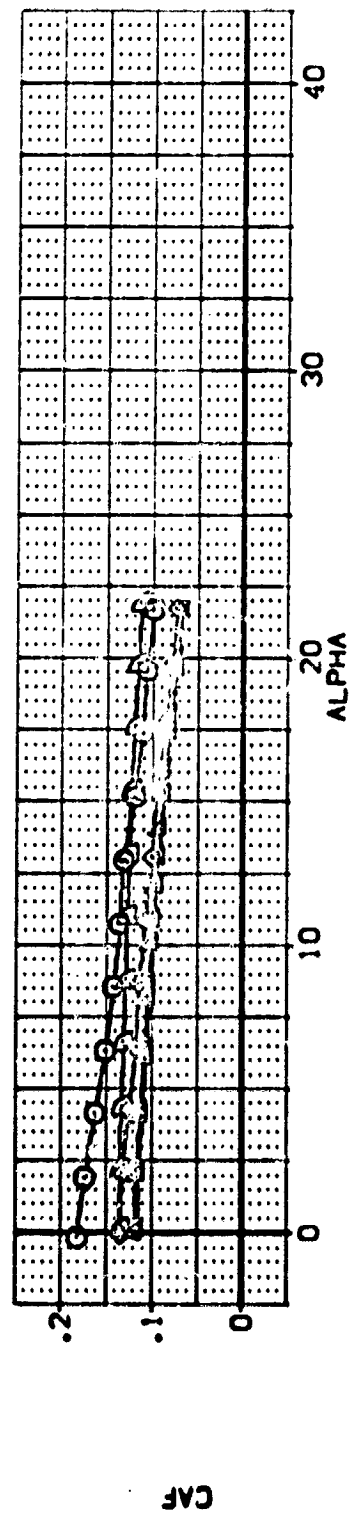
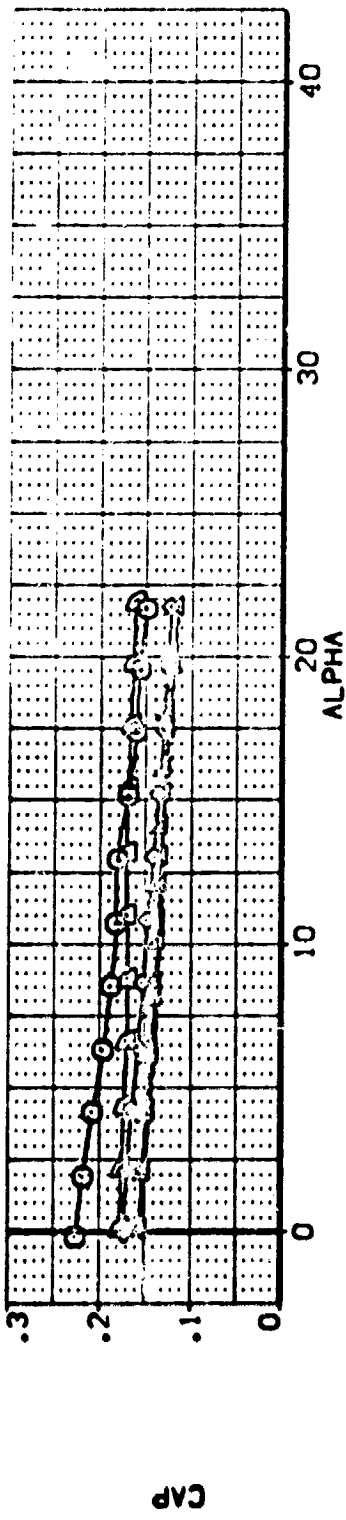
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILTRON	REFERENCE INFORMATION
(E2001)	MSFC SBI(OA45) ORB 34-0 (BOFH) (VE)(VR)	-22.650	-11.700	25.550	-.370	SREF 2741.8000 SO. FT
(E2011)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-.240	LREF 481.6480 IN.
(E2002)	MSFC SBI(OA45) ORB 34-0 (BOFH) (VE)(VR)	-15.550	-11.700	25.550	-.400	BREF 936.7000 IN.
(E2003)	MSFC SBI(OA45) ORB 34-0 (BOFH) (VE)(VR)	-4.310	-11.700	25.550	-.630	XMRP 1081.3500 IN.
(E2004)	MSFC SBI(OA45) ORB 34-0 (BOFH) (VE)(VR)	.000	-11.700	25.550	-.000	YMRP .0000 IN.
(E2005)	MSFC SBI(OA45) ORB 34-0 (BOFH) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZMRP .0040 IN.
						SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)MACH = .89

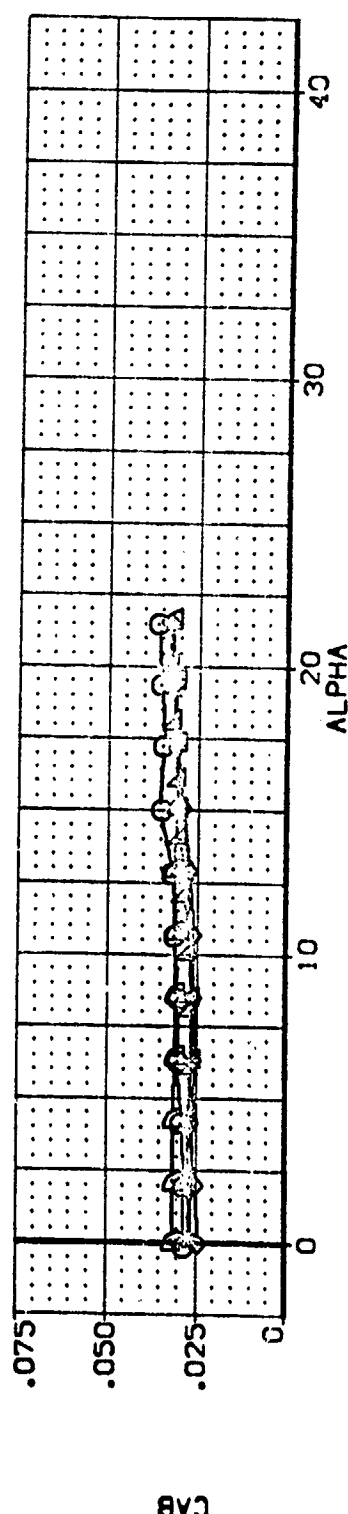
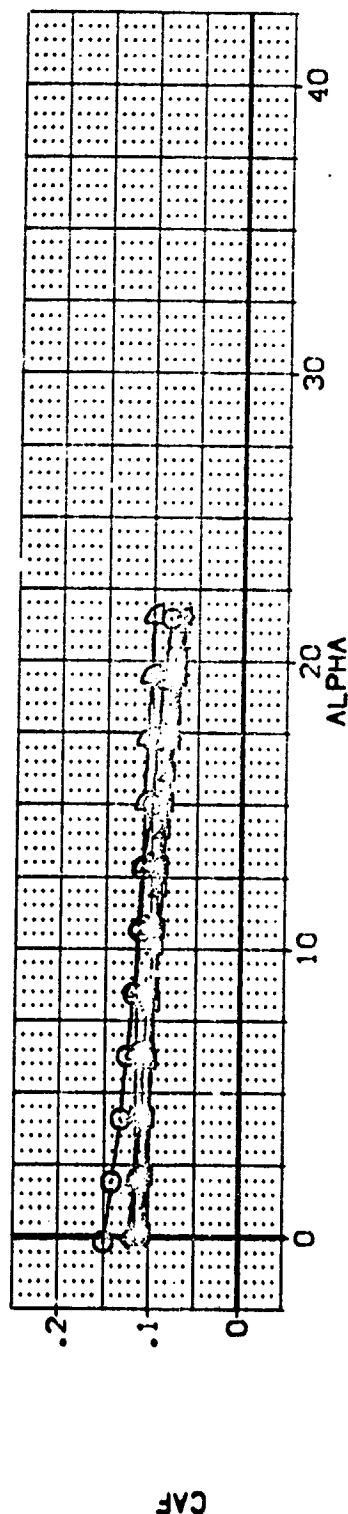
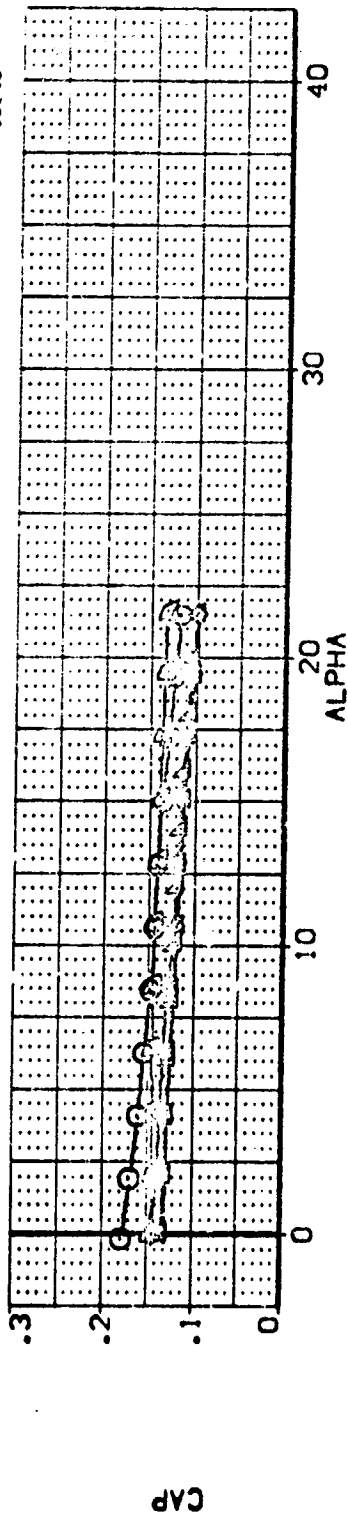
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	ALTRON	REFERENCE INFORMATION
(E92001)	MSFC S81(DA49) DB8 3A-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-1.600	SREF 2741.8000 SO. FT
(E92117)	DATA NOT AVAILABLE	-23.610	-11.700	25.550	-1.600	LREF 481.6400 IN.
(E92002)	MSFC S81(DA49) DB8 3A-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-1.600	BREF 935.7000 IN.
(E92003)	MSFC S81(DA49) DB8 3A-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-1.600	XREF 1081.3000 IN.
(E92004)	MSFC S81(DA49) DB8 3A-0 (BCFM) (VE)(VR)	0.000	-11.700	25.550	-1.600	YREF 0.0000 IN.
(E92005)	MSFC S81(DA49) DB8 3A-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.600	ZREF 0.0000 IN.
						SCALE 10010



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(D)MAC = 1.46

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AIRLON	REFERENCE INFORMATION
[E92001]	MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	75.550	-320	SREF 2741.8000 SQ. FT
[E92117]	DATA NOT AVAILABLE	-23.870	-11.700	25.550	-240	LREF 481.6180 IN.
[E92002]	MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR)	-15.500	-11.700	25.550	-400	BREF 936.7000 IN.
[E92003]	MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-630	XHREF 1091.3900 IN.
[Z92004]	MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR)	.000	-11.700	25.550	0000	YHREF 0000 IN.
[E92005]	MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZHREF 0000 IN.
					SCALE	.0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

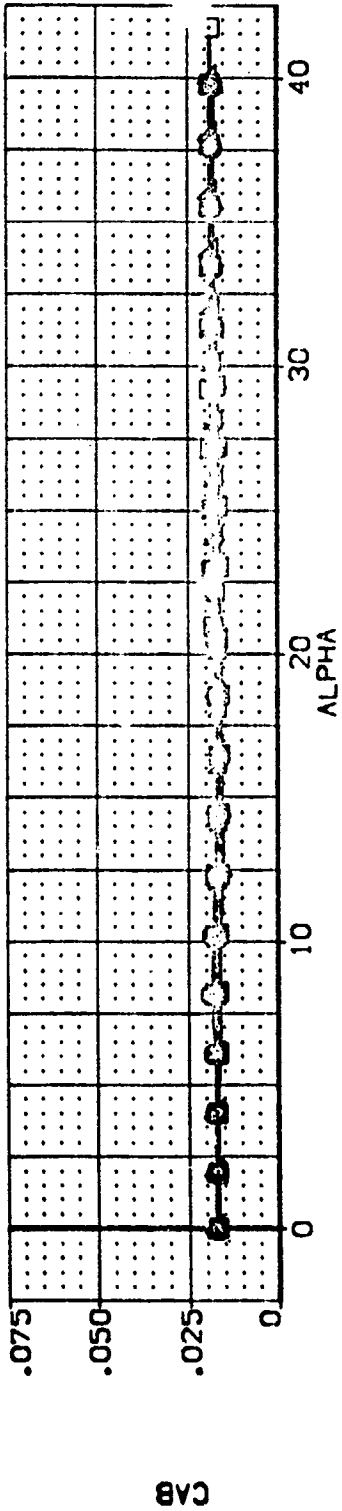
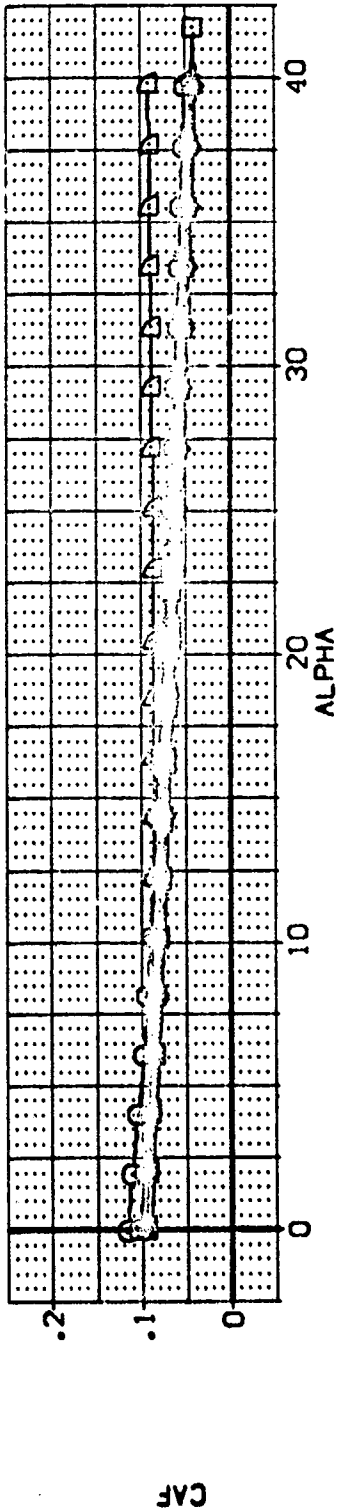
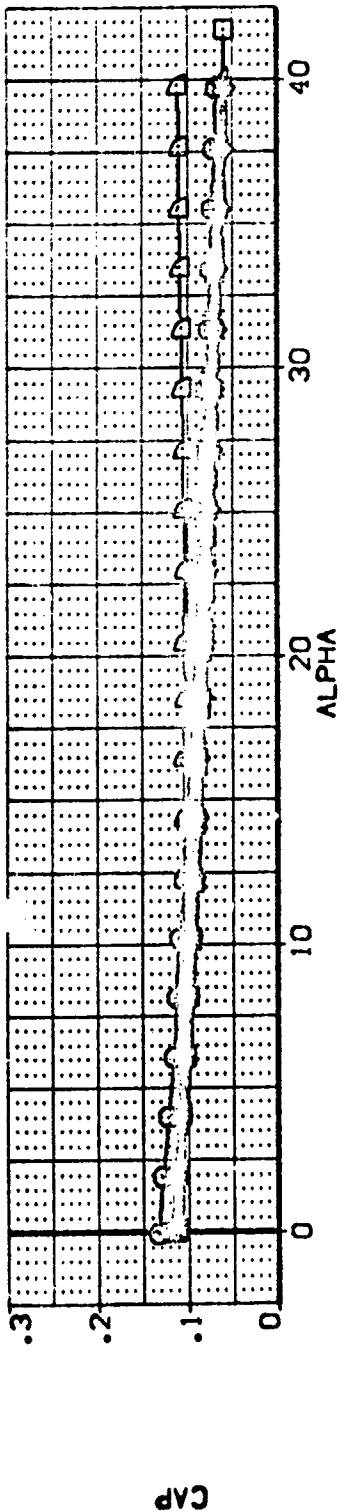
(E)MACH = 1.95

DATA SET SYMBOL: (E92001) (E92117) (E92002) (E92003) (E92004) (E92005)

CONFIGURATION DESCRIPTION: MSFC 581(DA19) ORB 34-0 (BCFH) (VE)(VR) MSFC 581(DA19) ORB 34-0 (BCFH) (VE)(VR) MSFC 581(DA19) ORB 34-0 (BCFH) (VE)(VR) MSFC 581(DA19) ORB 34-0 (BCFH) (VE)(VR) MSFC 581(DA19) ORB 34-0 (BCFH) (VE)(VR)

ELEVTR BOFLAP SPDBRK AILTRON REFERENCE INFORMATION 50. FT

-33.650	-11.700	25.550	-1.320	SREF	2741.8000	IN.
-23.040	-11.700	25.550	-2.400	LREF	481.6480	IN.
-15.550	-11.700	25.550	-4.000	BREF	936.7000	IN.
-4.310	-11.700	25.550	-6.300	XMRP	1081.3500	IN.
.000	-11.700	25.550	-1.680	YMRP	.0000	IN.
16.790	-11.700	25.550	-1.680	ZMRP	.0000	IN.
				SCALE	.0040	

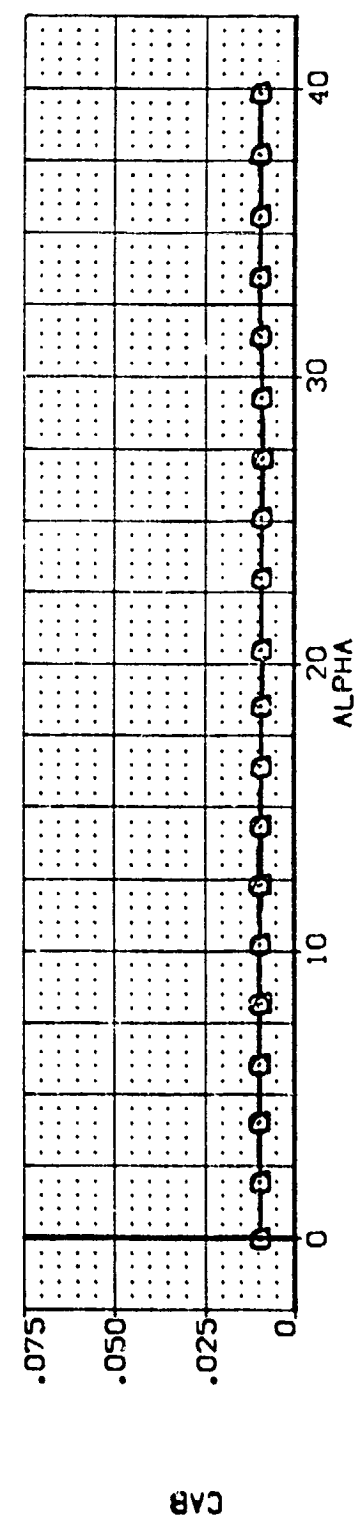
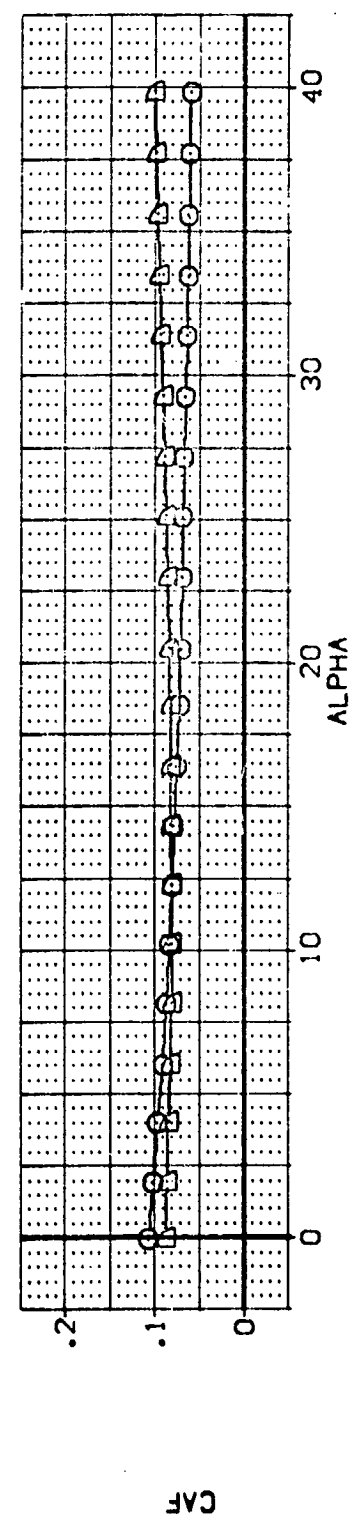
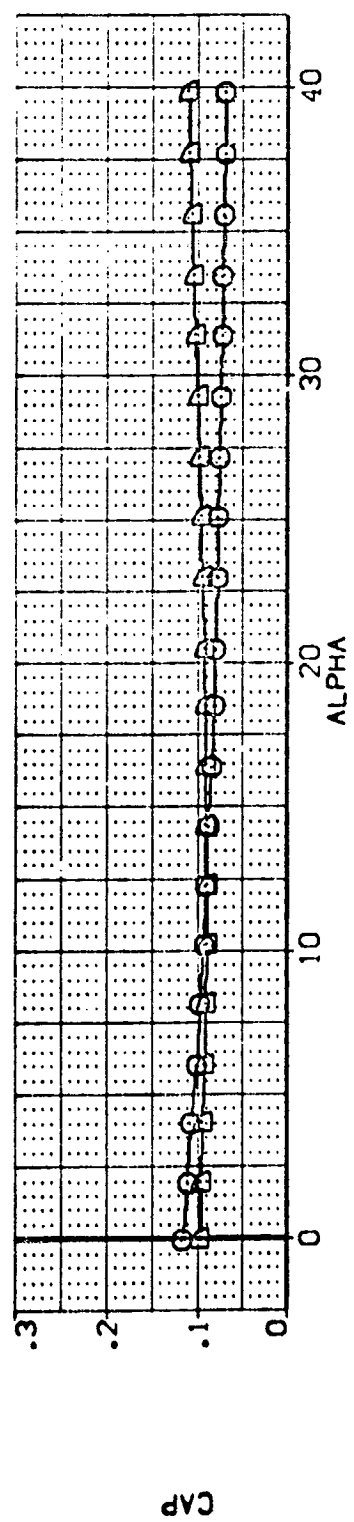


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(F)MACH = 2.99



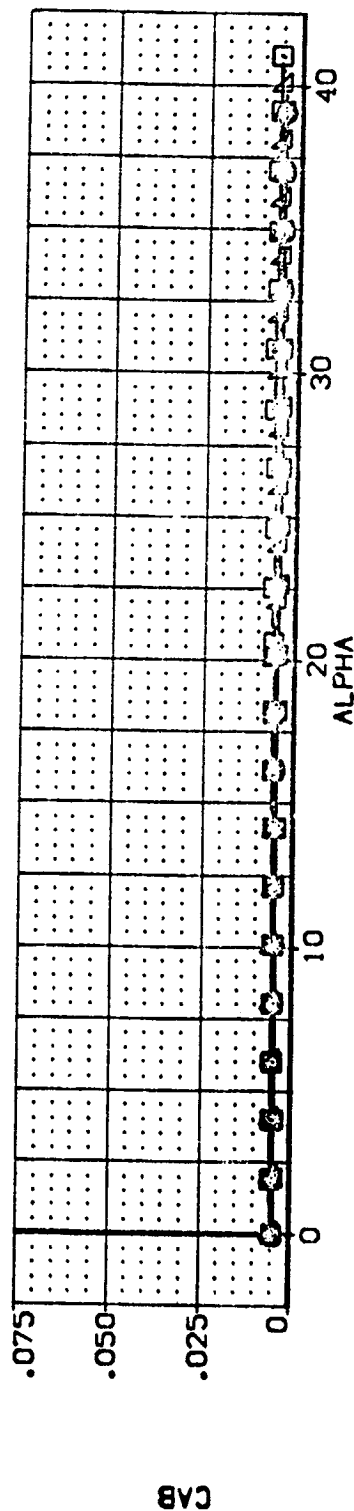
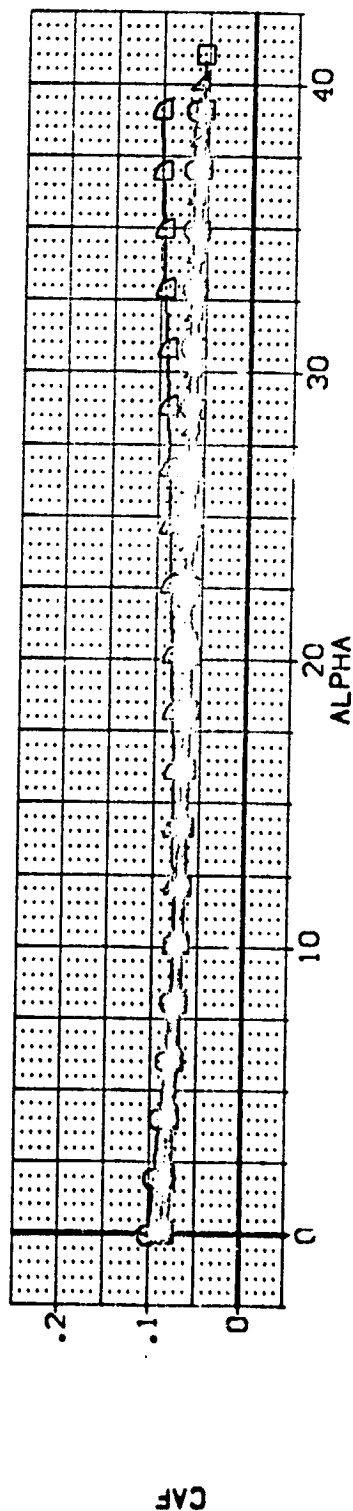
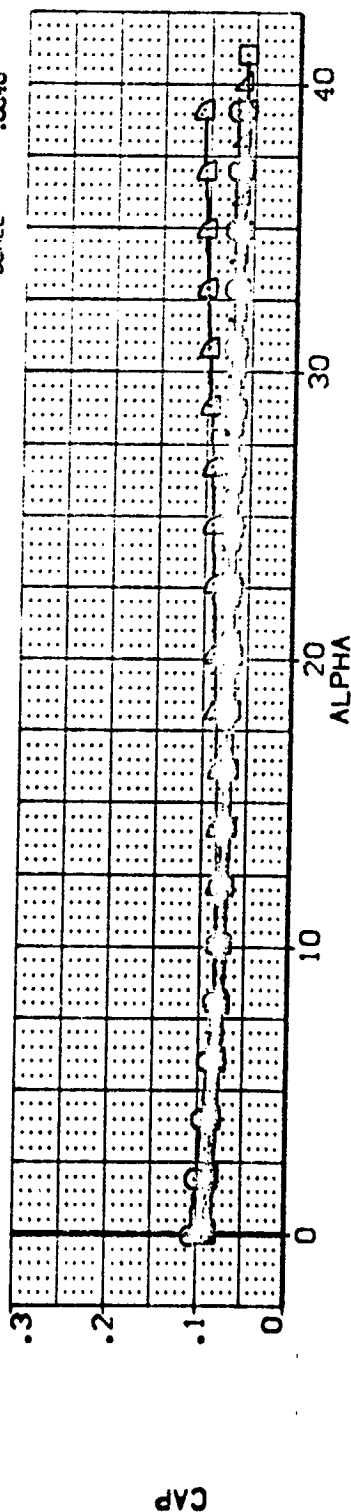
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDBRK	ALLRBN	REFERENCE INFORMATION
[E92001]	MSFC S81(0A49) ORB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-330	SREF 2741.8000 SQ. FT
[E92117]	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-340	LREF 481.6480 IN.
[E92002]	DATA NOT AVAILABLE	-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
[E92003]	DATA NOT AVAILABLE	-4.310	-11.700	25.550	-630	XMRP 1081.3500 IN.
[Z92004]	DATA NOT AVAILABLE	.000	-11.700	25.550	YMRP	.0000 IN.
[E92005]	MSFC S81(0A49) ORB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	ZMRP	.0000 IN.
					SCALE	.0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(G)MACH = 4.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(E92001)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE)(VR)	-23.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
(E92002)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE)(VR)	-23.810	-11.700	25.550	-1.240	LREF 481.6480 IN.
(E92003)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-1.400	BREF 936.7000 IN.
(E92004)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-1.630	XMRP 1081.3500 IN.
(E92005)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE)(VR)	.000	-11.700	25.550	-1.500	YMRP .0000 IN.
		16.750				SCALE .0040

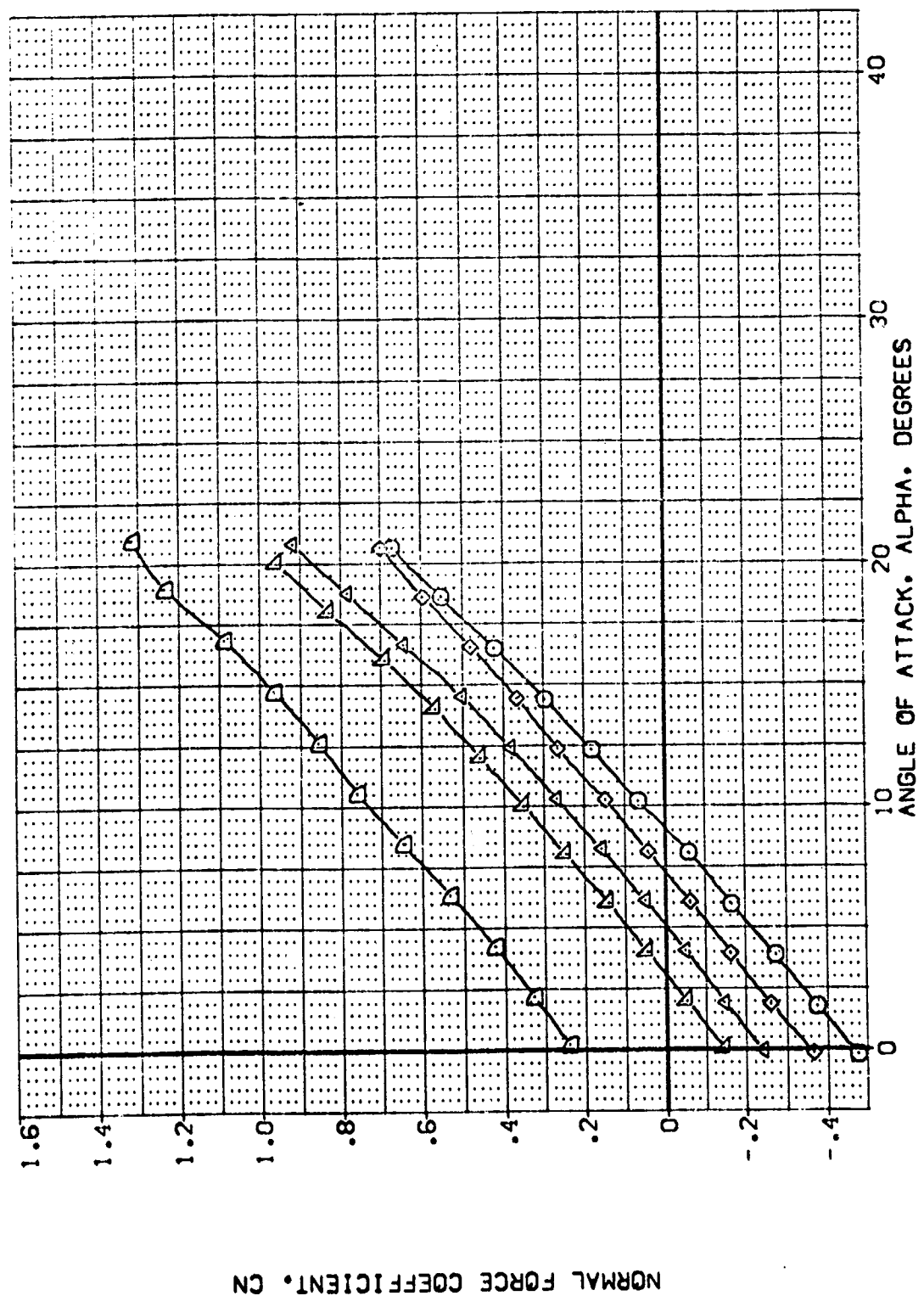


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(H)MAC' = 4.96



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION	SO. FT
(E92001)	MSFC 581(CA49) ORB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-.370	SREF	2741.8000
(E92017)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-.240	LREF	481.6400
(E92002)	MSFC 581(CA49) ORB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-.400	BREF	936.7000
(E92003)	MSFC 581(CA49) ORB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-.630	XMRP	1081.3500
(E92004)	MSFC 581(CA49) ORB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.600	YMRP	.0000
(E92005)	MSFC 581(CA49) ORB 34-0 (BCFM) (VE)(VR)					ZMRP	.0000
						SCALE	.0040

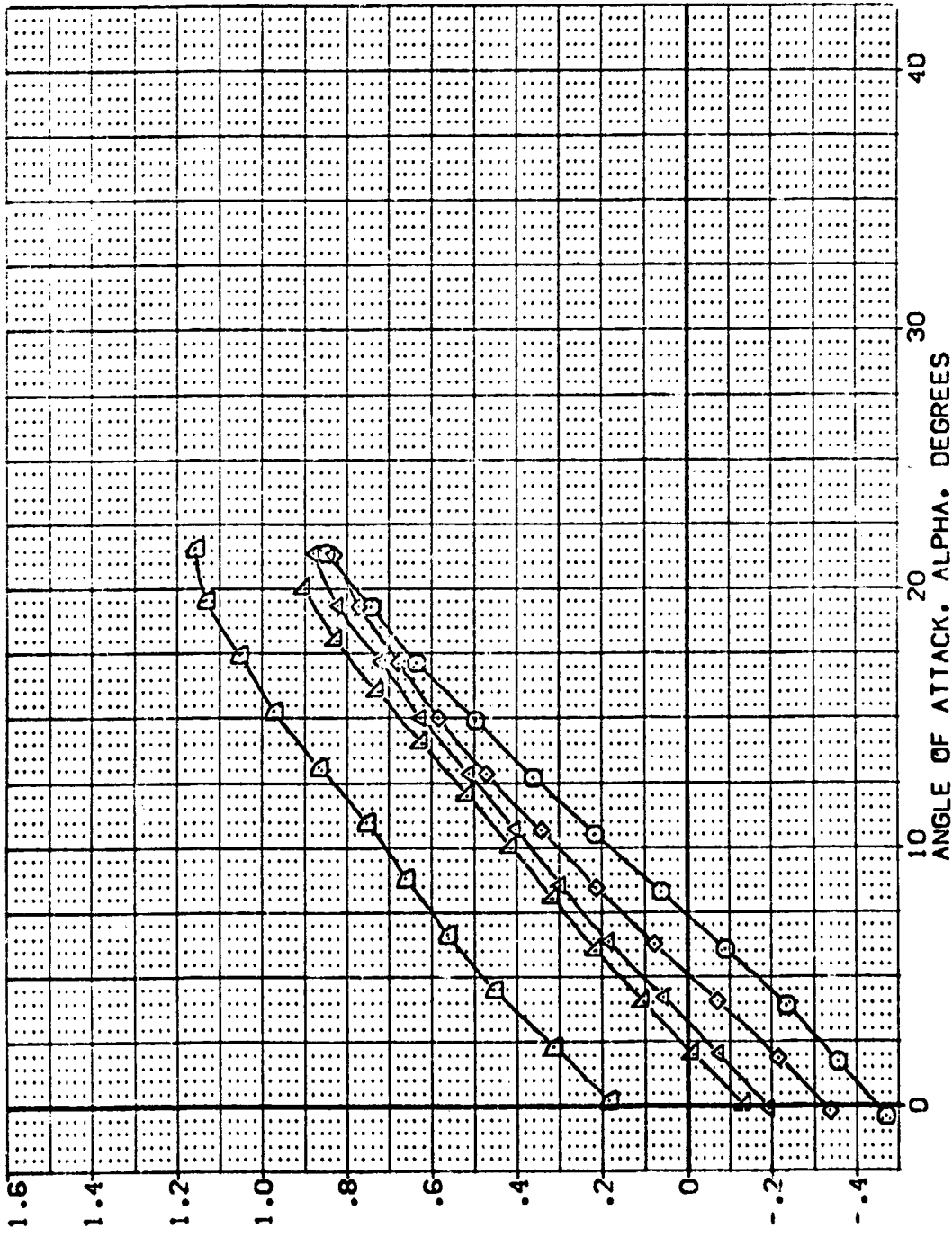


NORMAL FORCE COEFFICIENT, CN

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(A)MACH = .60

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDBRK	AILRON	REFERENCE INFORMATION
(E92001)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-1.680	SREF 2741.8000 50. FT
(E92117)	DATA NOT AVAILABLE	-23.840	-11.700	25.550		LREF 481.6490 IN.
(E92002)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550		BREF 936.7000 IN.
(E92003)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550		XMRP 1081.3900 IN.
(E92004)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	.000	-11.700	25.550		YMRP .0000 IN.
(E92005)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550		ZMRP .0000 IN.
						SCALE .0010

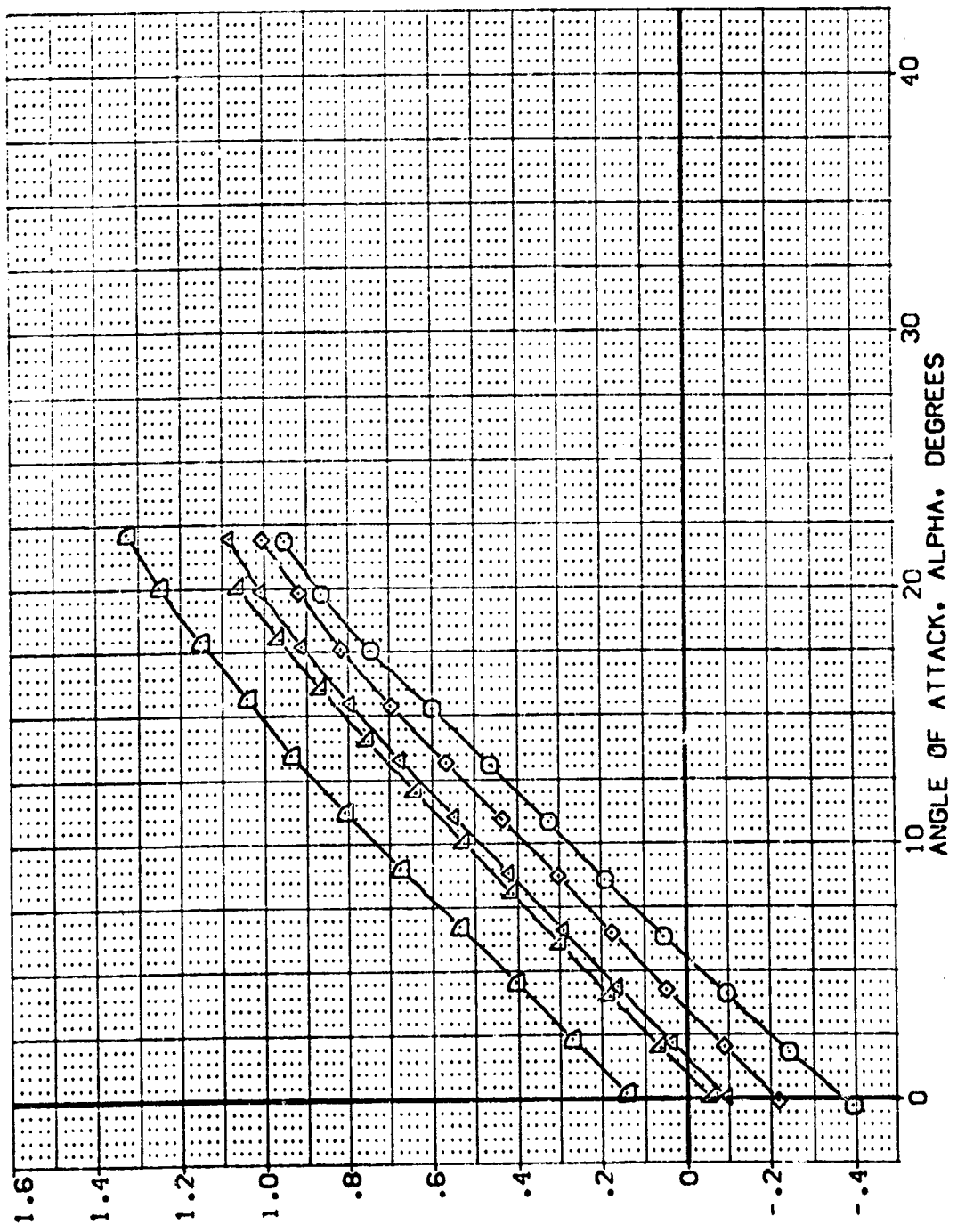


NORMAL FORCE COEFFICIENT, CN

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)MACH = .89

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDRBK	AILRON	REFERENCE INFORMATION	SQ. FT
(E92001)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE1)(VR)	-33.650	-11.700	25.550	-1.320	SREF	2741.8000
(E92117)	DATA NOT AVAILABLE	-23.810	-11.700	25.550	-1.240	LREF	481.6480
(E92002)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE1)(VR)	-15.550	-11.700	25.550	-1.400	BOLE	936.7000
(E92003)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE1)(VR)	-4.310	-11.700	25.550	-1.630	XMRP	1081.3900
(Z92004)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE1)(VR)	.000	-11.700	25.550		YMRP	.0000
(E92005)	MSFC 581(OA49) DRB 34-0 (BCFM) (VE1)(VR)	16.750	-11.700	25.550	-1.680	ZMRP	.0040
					SCALE		

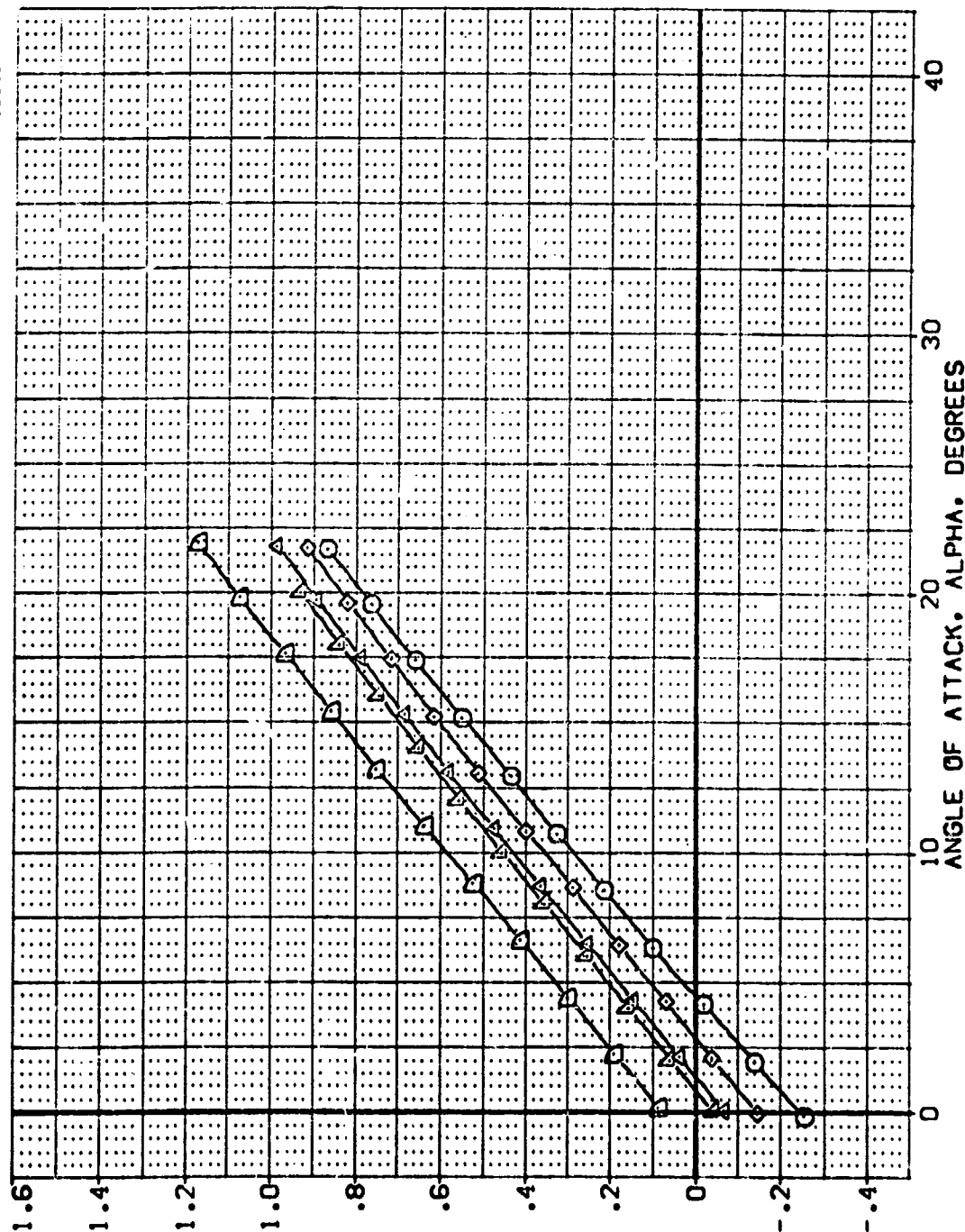


NORMAL FORCE COEFFICIENT, CN

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)MACH = 1.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	BOFLAP	SPOBRK	AILERON	REFERENCE INFORMATION
(E92001)	MSFC 581(OA49) ORB 34-0 (BOFM) (VE)(VR)	-33.650	-11.700	25.550	-1.370	SREF 2741.8000 SO. FT
(E92117)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-1.400	LREF 481.6480 IN.
(E92002)	MSFC 581(OA49) ORB 34-0 (BOFM) (VE)(VR)	-15.550	-11.700	25.550	-1.400	BREF 936.7000 IN.
(E92003)	MSFC 581(OA49) ORB 34-0 (BOFM) (VE)(VR)	-4.310	-11.700	25.550	-1.630	YPRP 1081.3500 IN.
(Z92004)	MSFC 581(OA49) ORB 34-0 (BOFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZPRP .0000 IN.
(E92005)	MSFC 581(OA49) ORB 34-0 (BOFM) (VE)(VR)					SCALE .0010



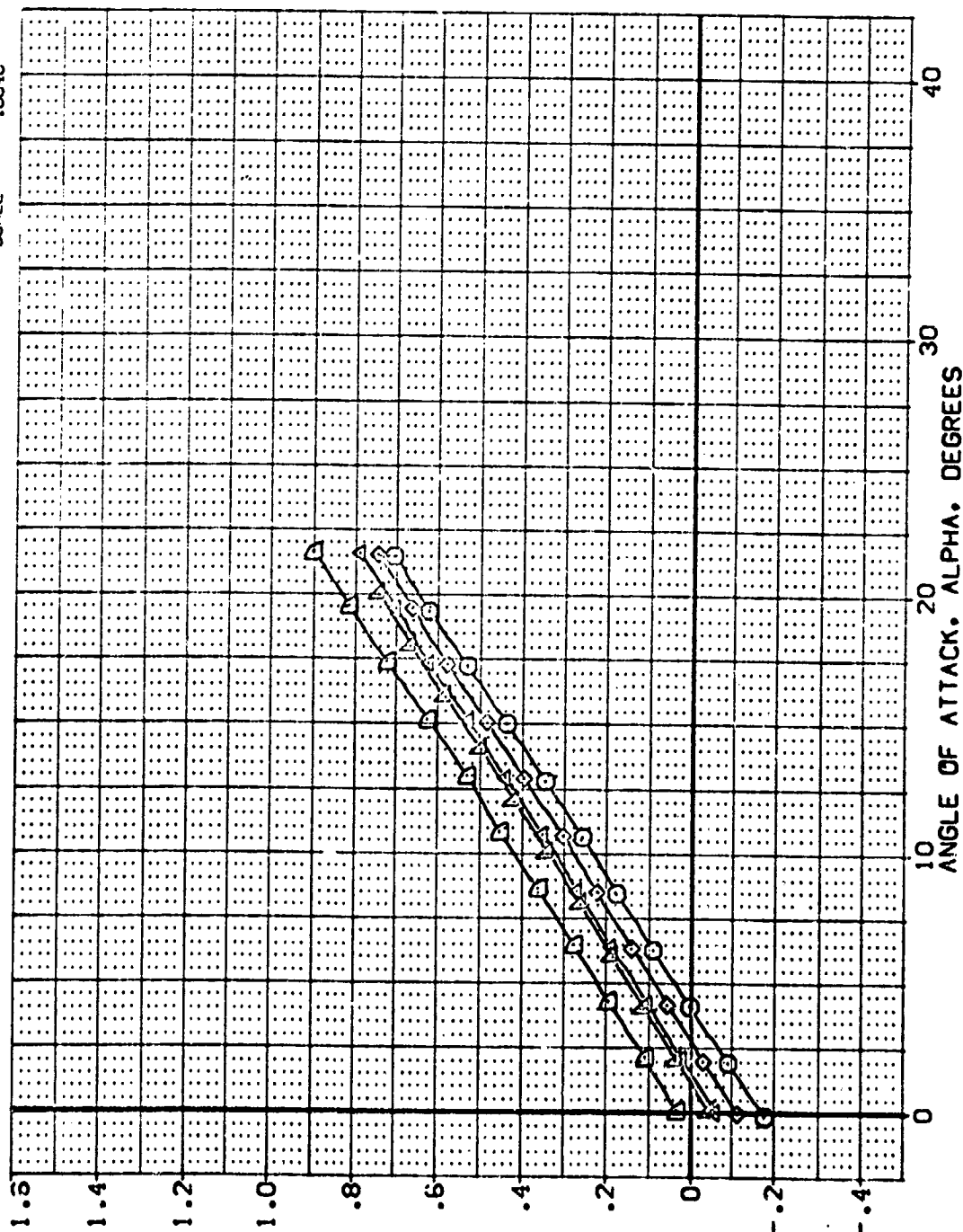
NORMAL FORCE COEFFICIENT, CN

ANGLE OF ATTACK, ALPHA, DEGREES

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(D)MACH = 1.46

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	ALLRON	REFERENCE INFORMATION
(E97001)	MSC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-370	SREF 2741.8000 SQ. FT
(E97002)	DATA NOT AVAILABLE	-23.810	-11.700	25.550	-240	LREF 481.6480 IN.
(E97003)	MSC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 935.7000 IN.
(E97004)	MSC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-630	XREF 1081.3900 IN.
(E97005)	MSC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	.000	-11.700	25.550	-800	YREF 1081.3900 IN.
		16.750	-11.700	25.550	-1.680	ZREF 1081.3900 IN.
						SCALE .0010



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)MACH = 1.95

DATA SET SYMBOL

(192001)
(192002)
(192003)
(192004)
(192005)

CONFIGURATION DESCRIPTION

MSFC 581 (DA19) DRB 34-0 (BCFM) (VE) (VR)
MSFC 581 (DA19) DRB 34-0 (BCFM) (VE) (VR)
MSFC 581 (DA19) DRB 34-0 (BCFM) (VE) (VR)
MSFC 581 (DA19) DRB 34-0 (BCFM) (VE) (VR)
MSFC 581 (DA19) DRB 34-0 (BCFM) (VE) (VR)

ELEVTR -33.650
-23.010
-15.550
-4.310
.000
16.790

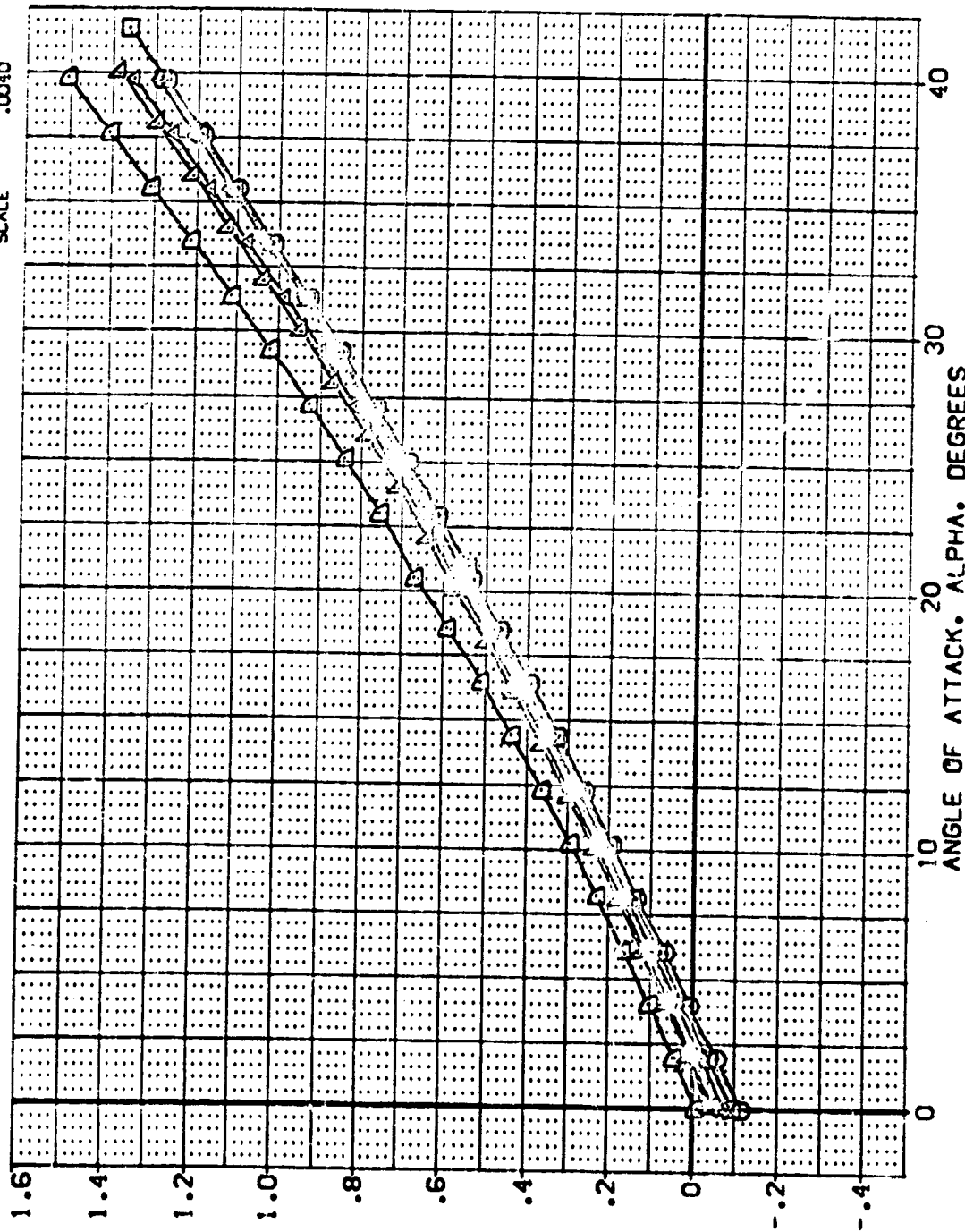
BOFLAP -11.700
-11.700
-11.700
-11.700
-11.700
-11.700

SPOBRK 25.550
25.550
25.550
25.550
25.550
25.550

AILRON -1.320
-2.40
-4.00
-6.30
-1.680

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6180 IN.
BREF 936.7000 IN.
XMRP 1081.3350 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0010

NORMAL FORCE COEFFICIENT, CN

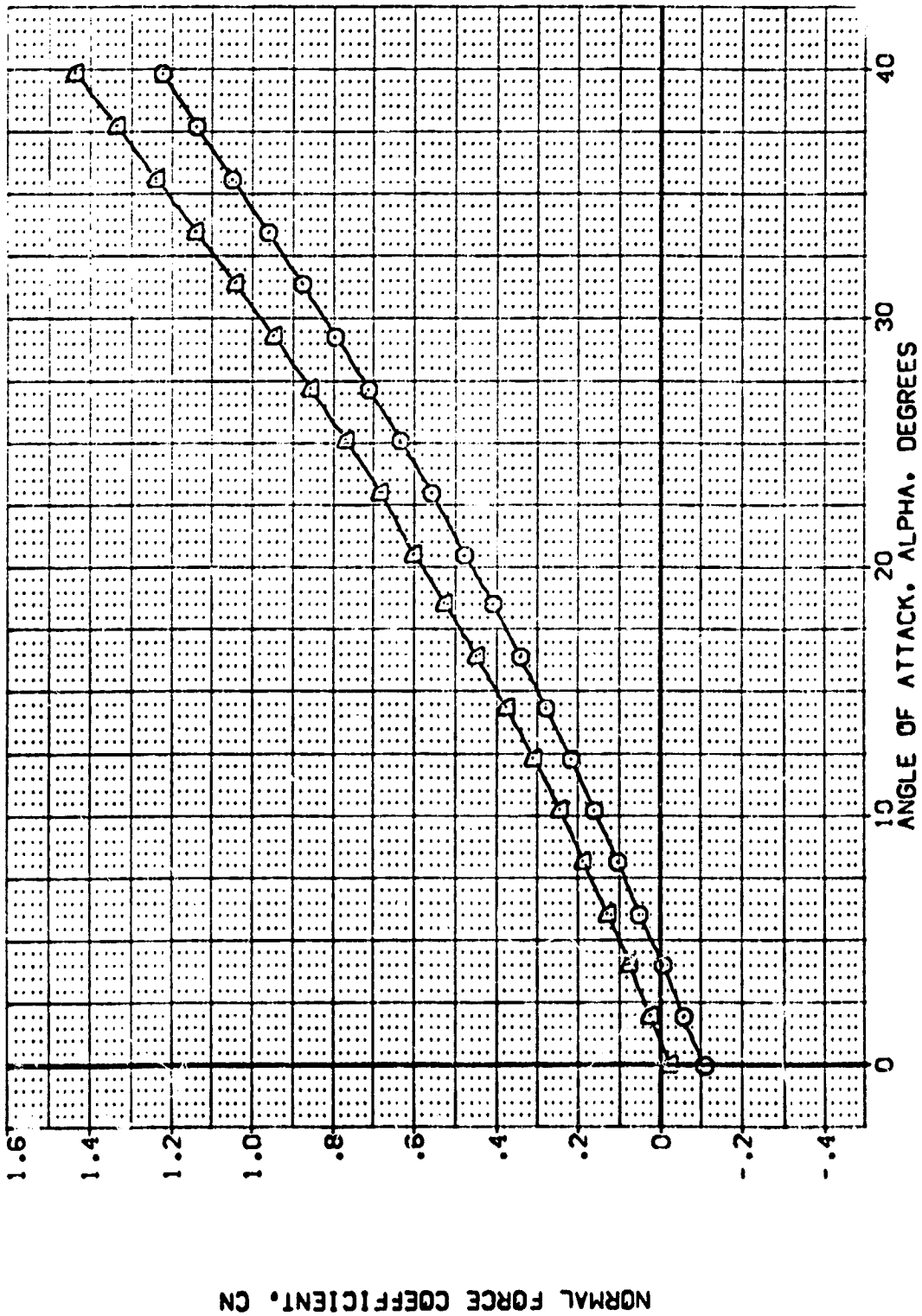


ANGLE OF ATTACK, ALPHA, DEGREES

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(F)MACH = 2.99

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(E97001)	MSC 581(OA49) DRB 34-0 (BOFM) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(E97002)	DATA NOT AVAILABLE	-23.640	-11.700	25.550	-0.240	LREF 481.6480 IN.
(E97003)	DATA NOT AVAILABLE	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
(E97004)	DATA NOT AVAILABLE	-4.310	-11.700	25.550	-0.630	XMRP 1081.3900 IN.
(E97005)	MSC 581(OA49) DRB 34-0 (BOFM) (VE)(VR)	.000	-11.700	25.550	-1.680	ZMRP .0000 IN.
		16.750	-11.700	25.550	-1.680	SCALE .0040

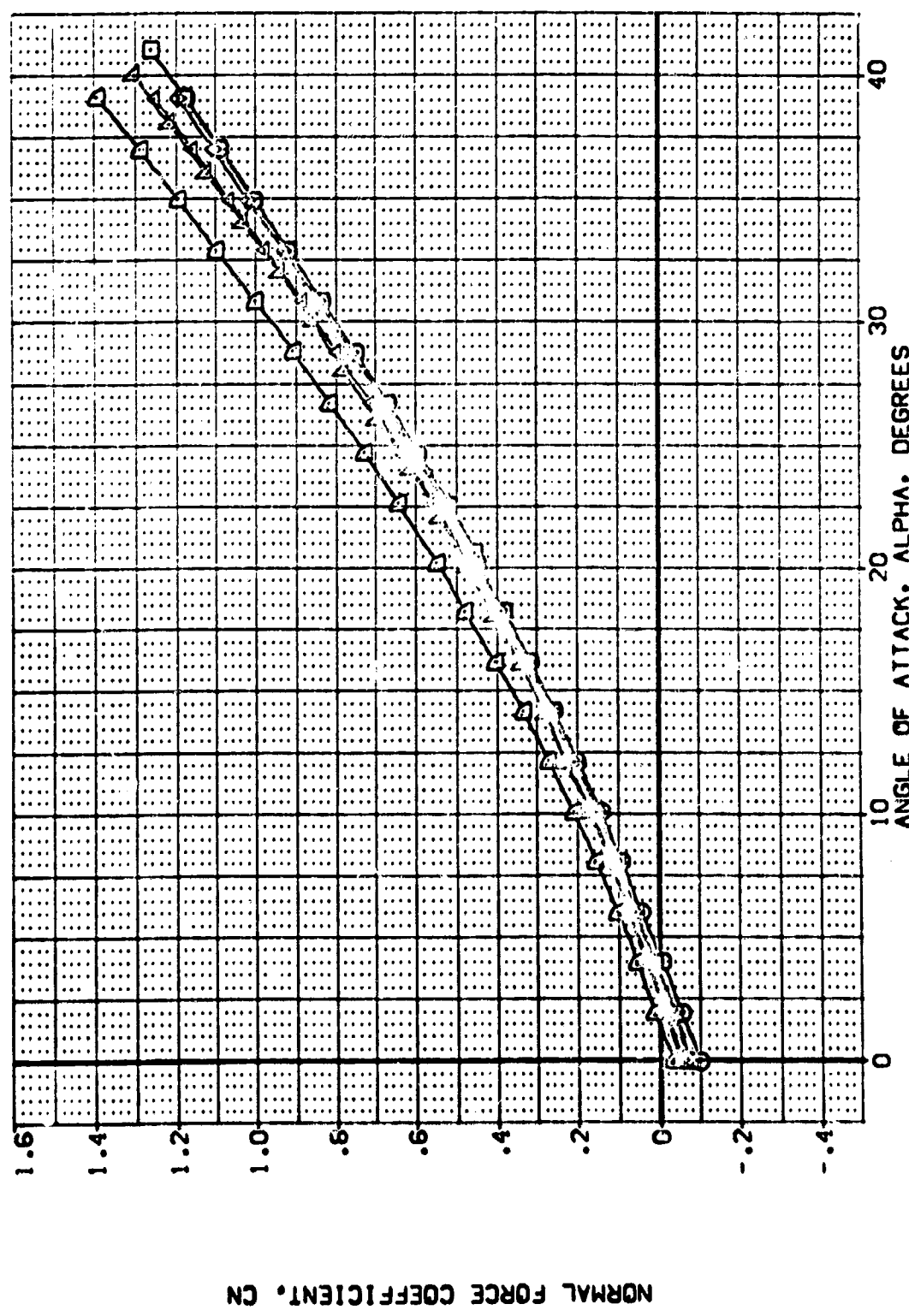


NORMAL FORCE COEFFICIENT, CN

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(G)MACH = 4.00

DATA SET SYMB.	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILTRON	REFERENCE INFORMATION
(E92001)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE) (VR)	-33.650	-11.700	25.550	-1.370	SREF 2741.8000 SQ. FT
(E92117)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE) (VR)	-23.640	-11.700	25.550	-1.370	LREF 481.6480 IN.
(E92002)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE) (VR)	-15.540	-11.700	25.550	-1.400	BREF 935.7000 IN.
(E92003)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE) (VR)	-4.310	-11.700	25.550	-1.630	XMRP 1031.3500 IN.
(E92004)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE) (VR)	.305	-11.700	25.550	-1.680	ZMRP .0000 IN.
(E92005)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE) (VR)	16.790	-11.700	25.550	-1.680	SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(H)MACH = 4.96

DATA SET SYMBOL

(E52001)
(E52017)
(E52002)
(E52003)
(E52004)
(E52005)

CONFIGURATION DESCRIPTION

MS C 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)
DATA NOT AVAILABLE
MS C 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)
MS C 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)
MS C 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)
MS C 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)

ALL REF

SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040

ELEVTR

-33.650
-23.810
-15.550
-4.310
16.790

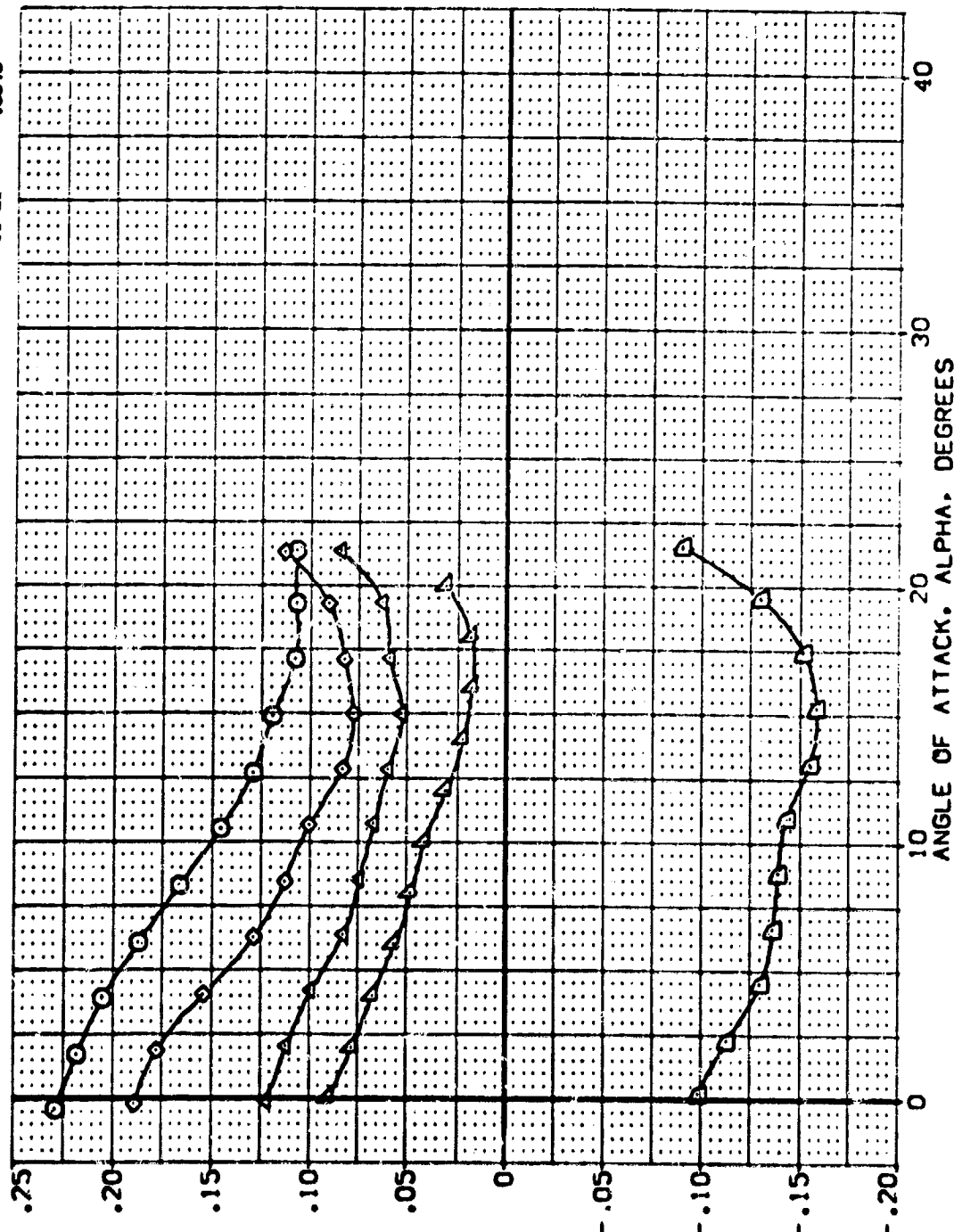
BOFLAP

-11.700
-11.700
-11.700
-11.700
-11.700

SPOBRK

25.550
25.550
25.550
25.550
25.550

PITCHING MOMENT COEFFICIENT, CLM

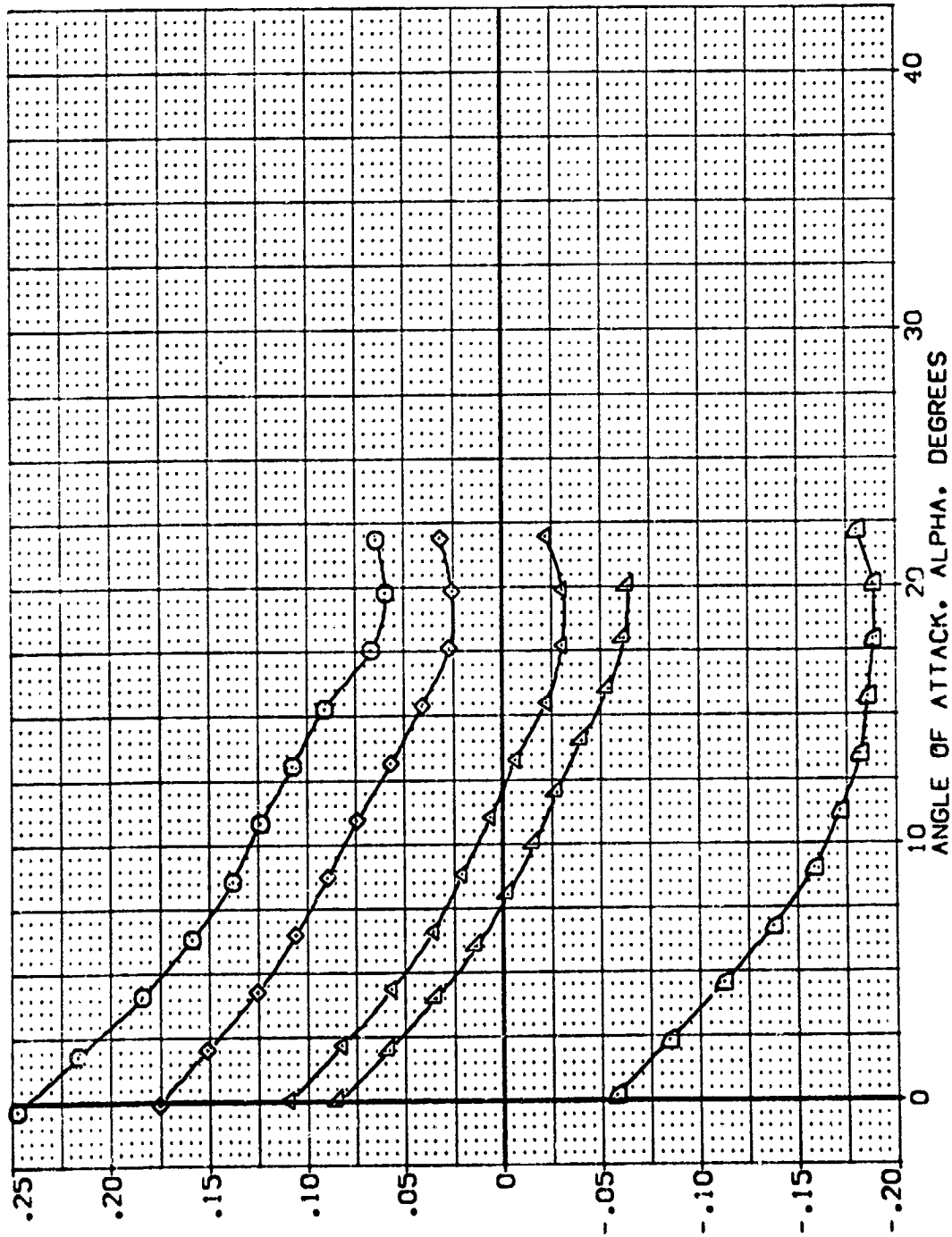


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)MACH = .89

C-2

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPODBK	AILTRON	REFERENCE INFORMATION
(E92001)	MSFC 581(DA19) DRB 34-0 (BCFH) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(E92117)	DATA NOT AVAILABLE	-23.010	-11.700	25.550	-0.240	LREF 481.6480 IN.
(E92002)	MSFC 581(DA19) DRB 34-0 (BCFH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
(E92003)	MSFC 581(DA19) DRB 34-0 (BCFH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP 1061.3900 IN.
(E92004)	MSFC 581(DA19) DRB 34-0 (BCFH) (VE)(VR)	.000	-11.700	25.550	-1.000	YMRP .0000 IN.
(E92005)	MSFC 581(DA19) DRB 34-0 (BCFH) (VE)(VR)	16.730	-11.700	25.550	-1.680	ZMRP .0040 IN.
						SCALE



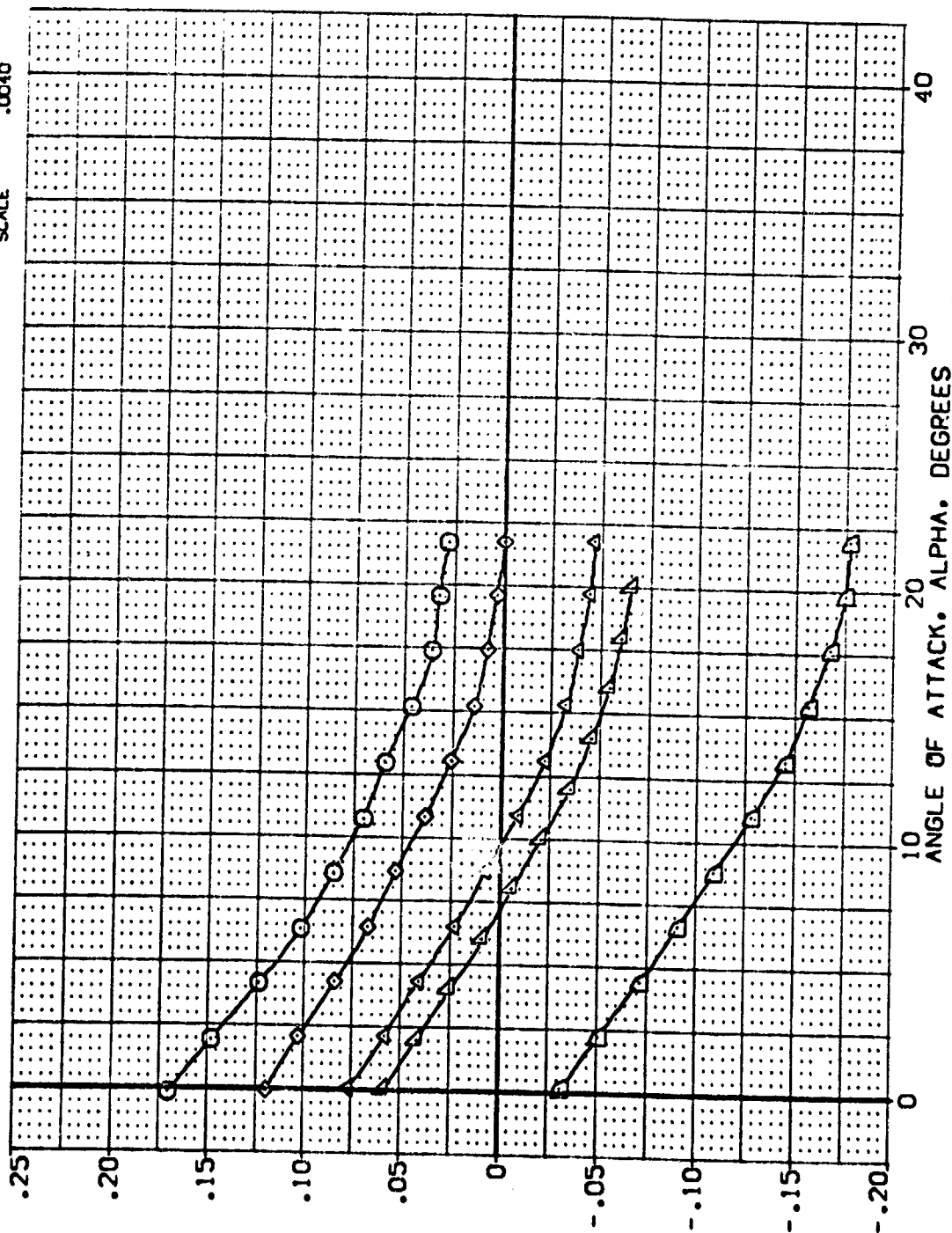
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)_{MACH} = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (E92001) MSC 581(OA49) DB 34-0 (BOFM) (VE)(VR)
 (E92002) DATA NOT AVAILABLE
 (E92003) MSC 581(OA49) DB 34-0 (BOFM) (VE)(VR)
 (E92004) MSC 581(OA49) DB 34-0 (BOFM) (VE)(VR)
 (E92005) MSC 581(OA49) DB 34-0 (BOFM) (VE)(VR)

ELEVTR BOFLAP SPOBRK ALLRON
 -33.650 -11.700 25.550 -1.320
 -23.810 -11.700 25.550 -1.240
 -15.550 -11.700 25.550 -1.100
 -4.310 -11.700 25.550 -1.630
 .000 -11.700 25.550 -1.680
 16.750 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3800 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



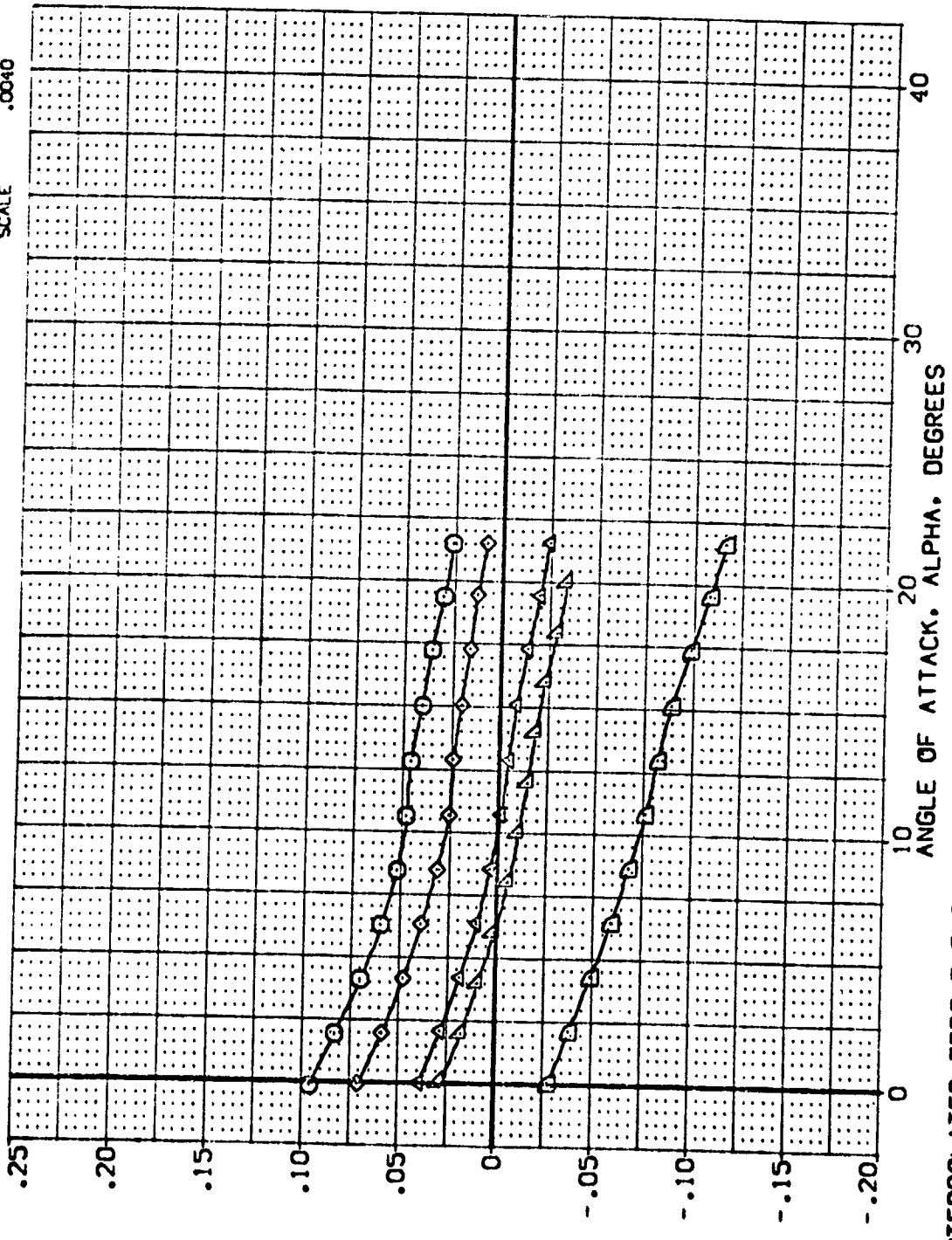
PITCHING MOMENT COEFFICIENT, CLM

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(O)MACH = 1.46



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVATOR	BOE-LAP	SPD-BRK	AIL-ROD	REFERENCE INFORMATION
(E92001)	MSC 581(OA49) 078 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(E92117)	DATA NOT AVAILABLE	-23.810	-11.700	25.550	-0.240	LREF 481.6180 IN.
(E92002)	MSC 581(OA49) 078 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
(E92003)	MSC 581(OA49) 078 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP 1081.3900 IN.
(E92004)	MSC 581(OA49) 078 34-0 (BCFM) (VE)(VR)	0.000	-11.700	25.550	-1.000	YMRP 0.0000 IN.
(E92005)	MSC 581(OA49) 078 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZMRP 0.0000 IN.
						SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

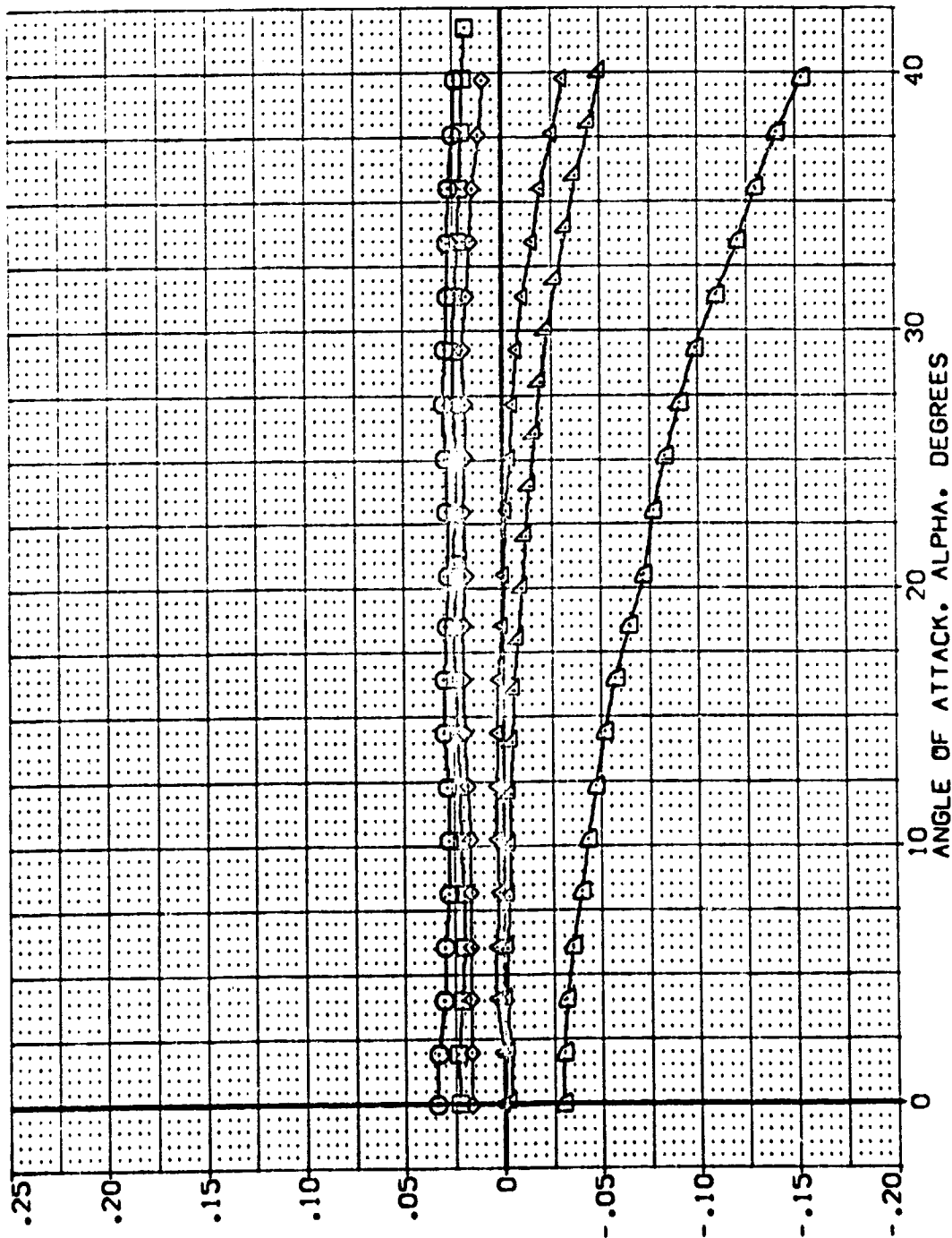
(E)MACH = 1.95

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILTRON	REFERENCE INFORMATION	SO. FT
(E92001)	MSFC 581(OA49) ORB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-370	SREF	2741.8000
(E92117)	MSFC 581(OA49) ORB 34-0 (BCFM) (VE)(VR)	-23.610	-11.700	25.550	-240	LREF	481.6483
(E92002)	MSFC 581(OA49) ORB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-400	BR F	936.7000
(E92003)	MSFC 581(OA49) ORB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-630	YMRP	1081.3900
(E92004)	MSFC 581(OA49) ORB 34-0 (BCFM) (VE)(VR)	0.000	-11.700	25.550	-1.680	YMRP	0.0000
(E92005)	MSFC 581(OA49) ORB 34-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	YMRP	0.0000

SCALE

PITCHING MOMENT COEFFICIENT, CLM

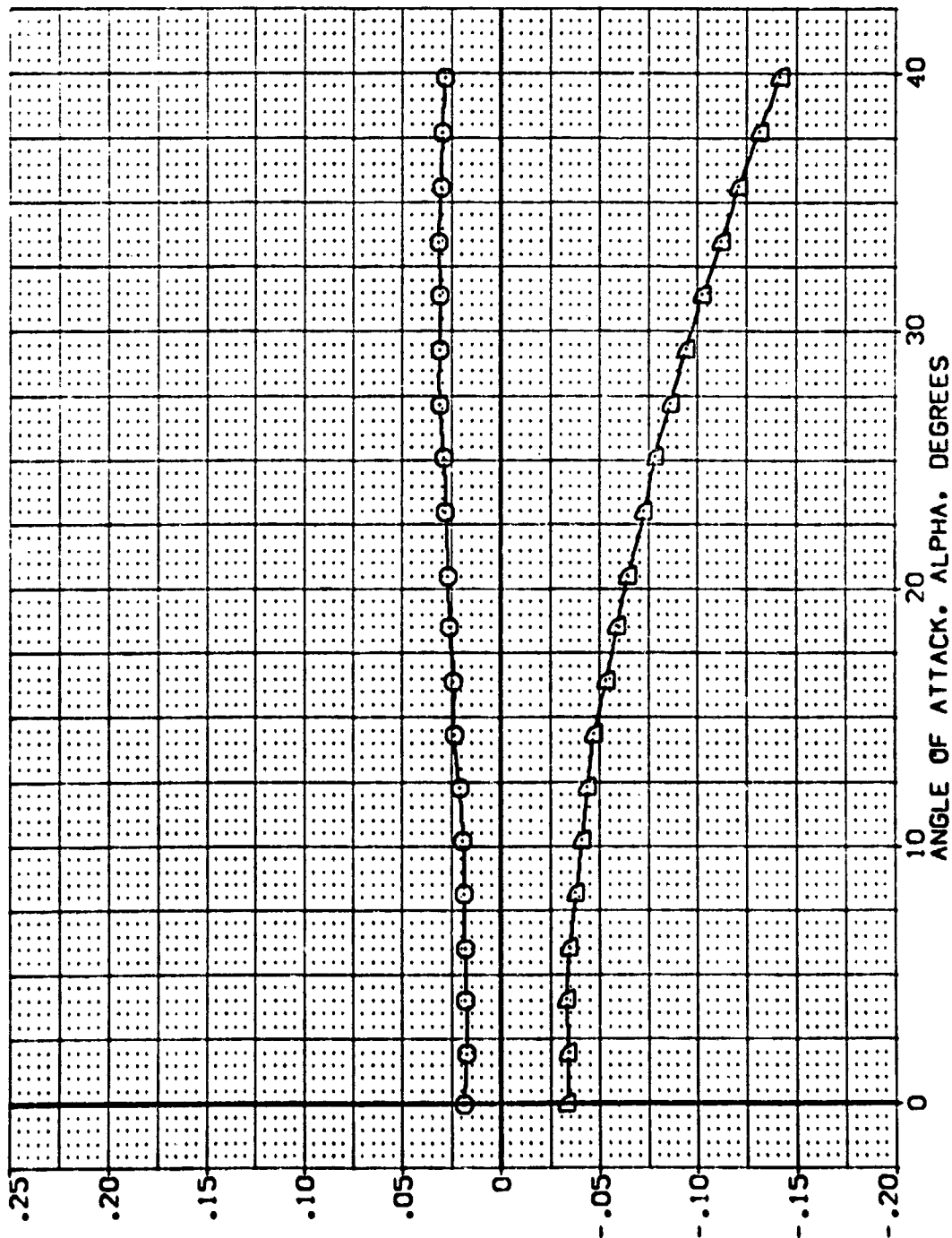


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(F)MACH = 2.99

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDBRK	AILTRON	REFERENCE INFORMATION
(E92001)	MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(E92117)	DATA NOT AVAILABLE	-23.810	-11.700	25.550	-0.240	LREF 481.6480 IN.
(E92002)	DATA NOT AVAILABLE	-15.250	-11.700	25.550	-0.400	BREF 936.7000 IN.
(E92003)	DATA NOT AVAILABLE	-4.310	-11.700	25.550	-0.630	XMRP 1081.3900 IN.
(Z92004)	DATA NOT AVAILABLE	.000	-11.700	25.550	-1.600	YMRP .0000 IN.
(E92005)	MSFC 581(0A49) DRB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.600	ZMRP .0000 IN.
						SCALE .0040

PITCHING MOMENT COEFFICIENT, CLM



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(G)MACH = 4.00

DATA SET SYMBOL

(E92001)
(E92117)
(E92007)
(E92003)
(E92004)
(E92005)

MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)
MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)
MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)
MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)
MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)

CONFIGURATION DESCRIPTION

ELEVTR -33.650
-23.840
-15.550
-4.310
16.750
-11.700

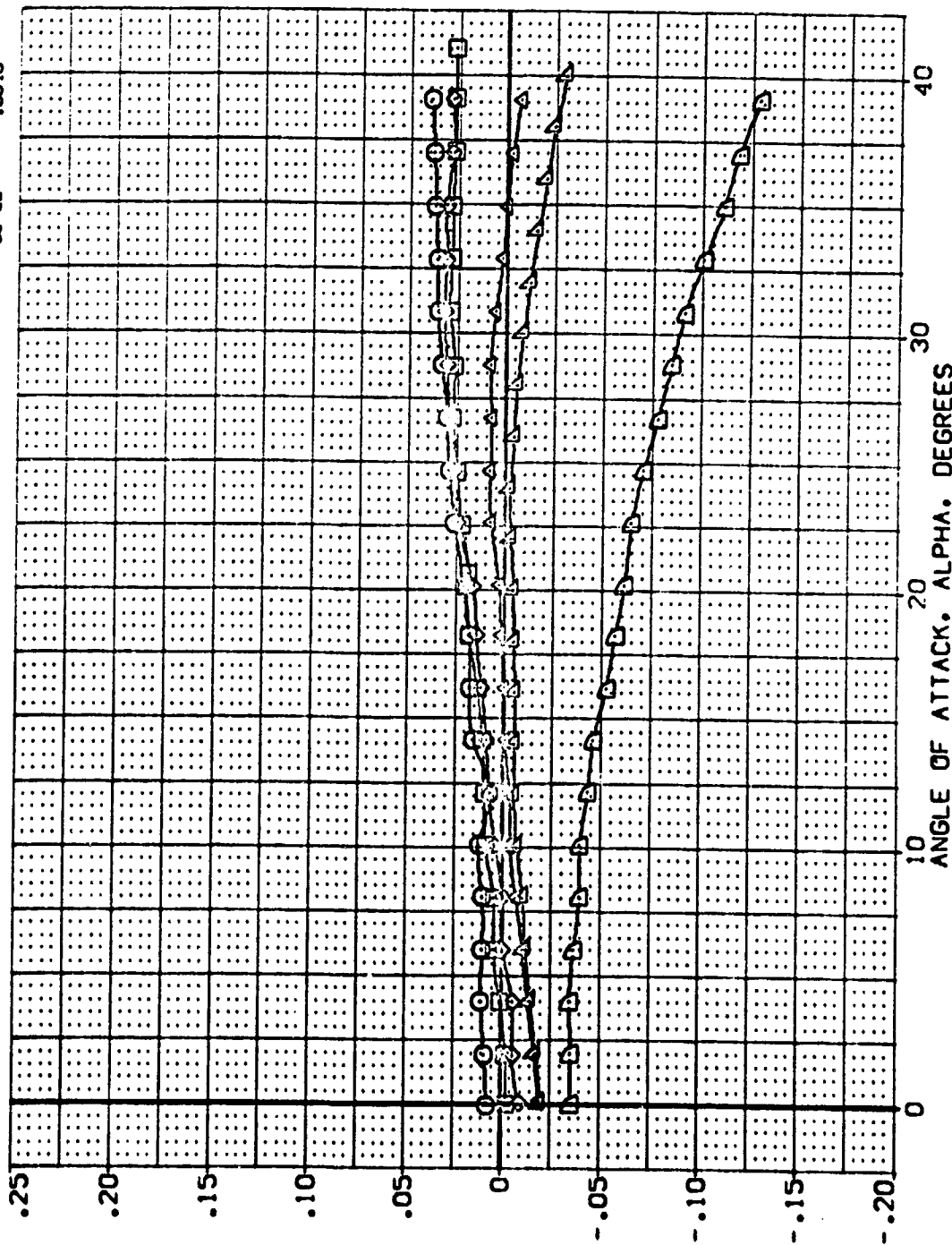
SPDRBK 25.550
25.550
25.550
25.550
25.550
25.550

BOFLAP -11.700
-11.700
-11.700
-11.700
-11.700
-11.700

AILRON -370
-240
-630
-1.600

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040

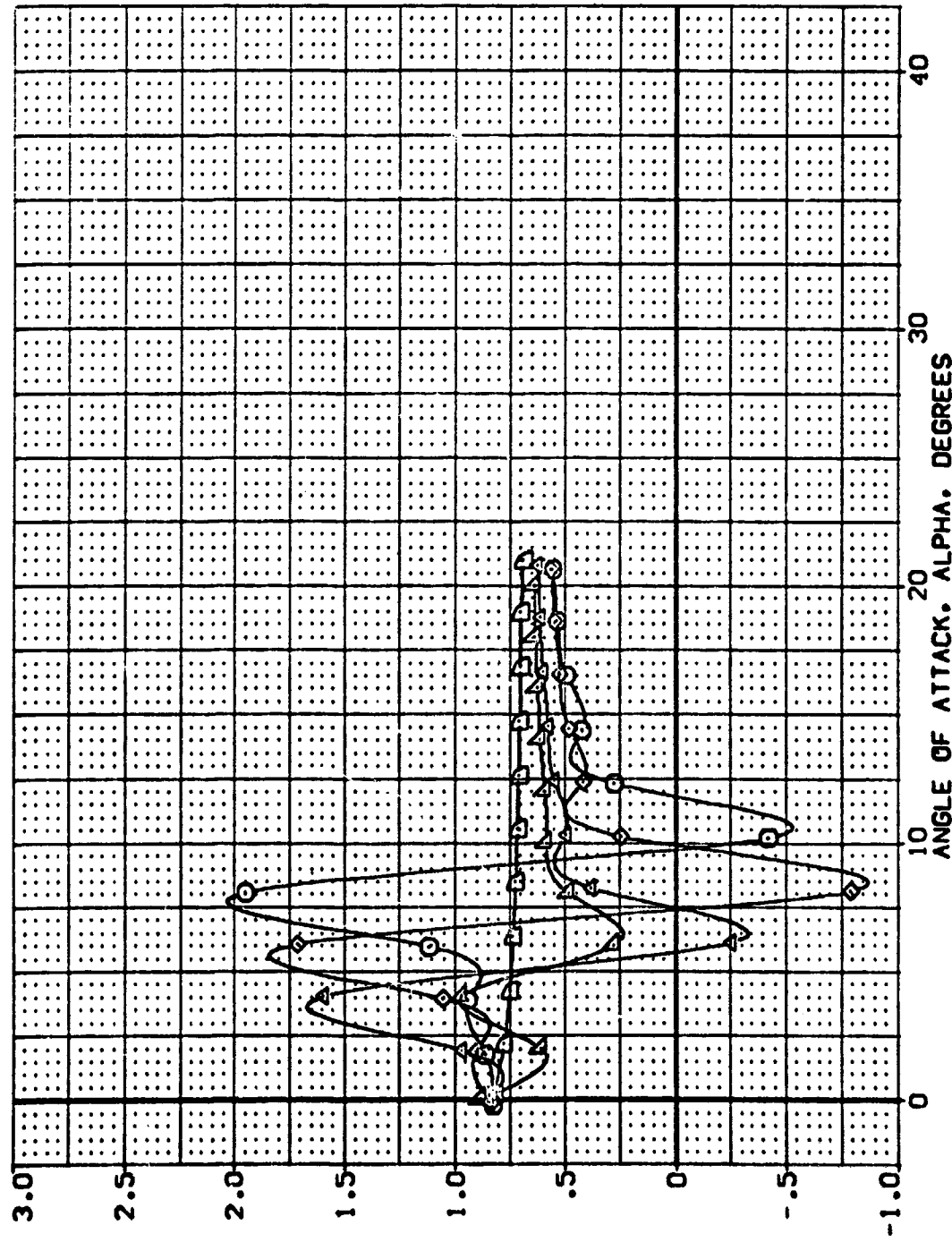
PITCHING MOMENT COEFFICIENT, CLM



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(H)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPDBRK	ALLRON	REFERENCE INFORMATION
(E92001)	MSFC 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
(E92117)	DATA NOT AVAILABLE	-23.810	-11.700	25.550	-1.240	LREF 481.6480 IN.
(E92002)	MSFC 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-1.100	BREF 936.7000 IN.
(E92003)	MSFC 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-1.630	XMRP 1081.3900 IN.
(E92004)	MSFC 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)	.000	-11.700	25.550	-1.680	YMRP .0000 IN.
(E92005)	MSFC 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZMRP .0000 IN.
						SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

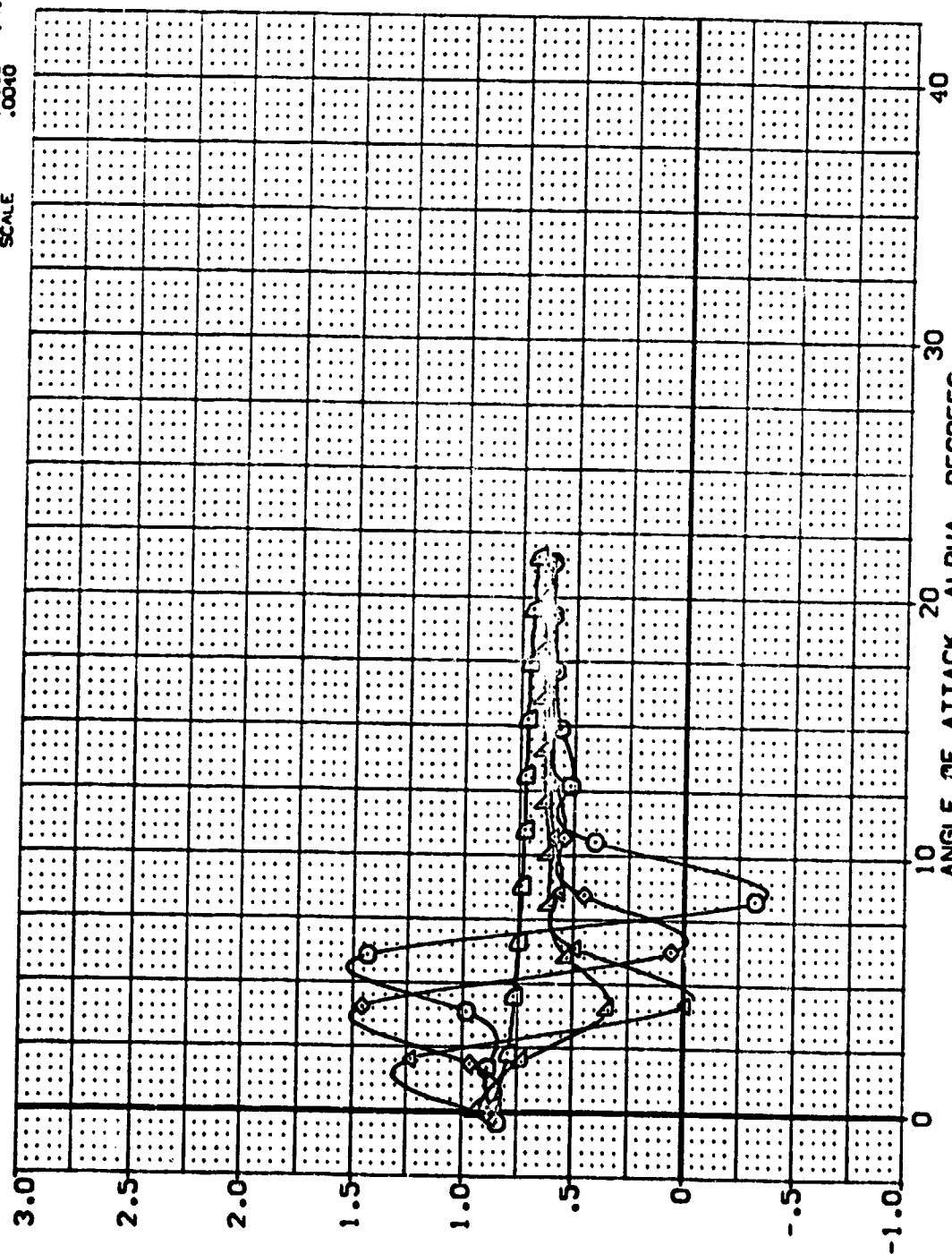
(A)MACH = .60

DATA SET SYMBOL
 (E97001)
 (E97117)
 (E97002)
 (E97003)
 (E97004)
 (E97005)

CONFIGURATION DESCRIPTION
 MSFC 581(DA49) DB8 34-0 (BCFM) (VE)(VR)
 DATA NOT AVAILABLE
 MSFC 581(DA49) DB8 34-0 (BCFM) (VE)(VR)
 MSFC 581(DA49) DB8 34-0 (BCFM) (VE)(VR)
 MSFC 581(DA49) DB8 34-0 (BCFM) (VE)(VR)
 MSFC 581(DA49) DB8 34-0 (BCFM) (VE)(VR)

ELEVTR BDFLAP SPOBRK AILRDN
 -33.650 -11.700 25.550 -1.320
 -23.810 -11.700 25.550 -1.240
 -15.550 -11.700 25.550 -1.100
 -4.310 -11.700 25.550 -1.030
 16.790 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 491.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0010

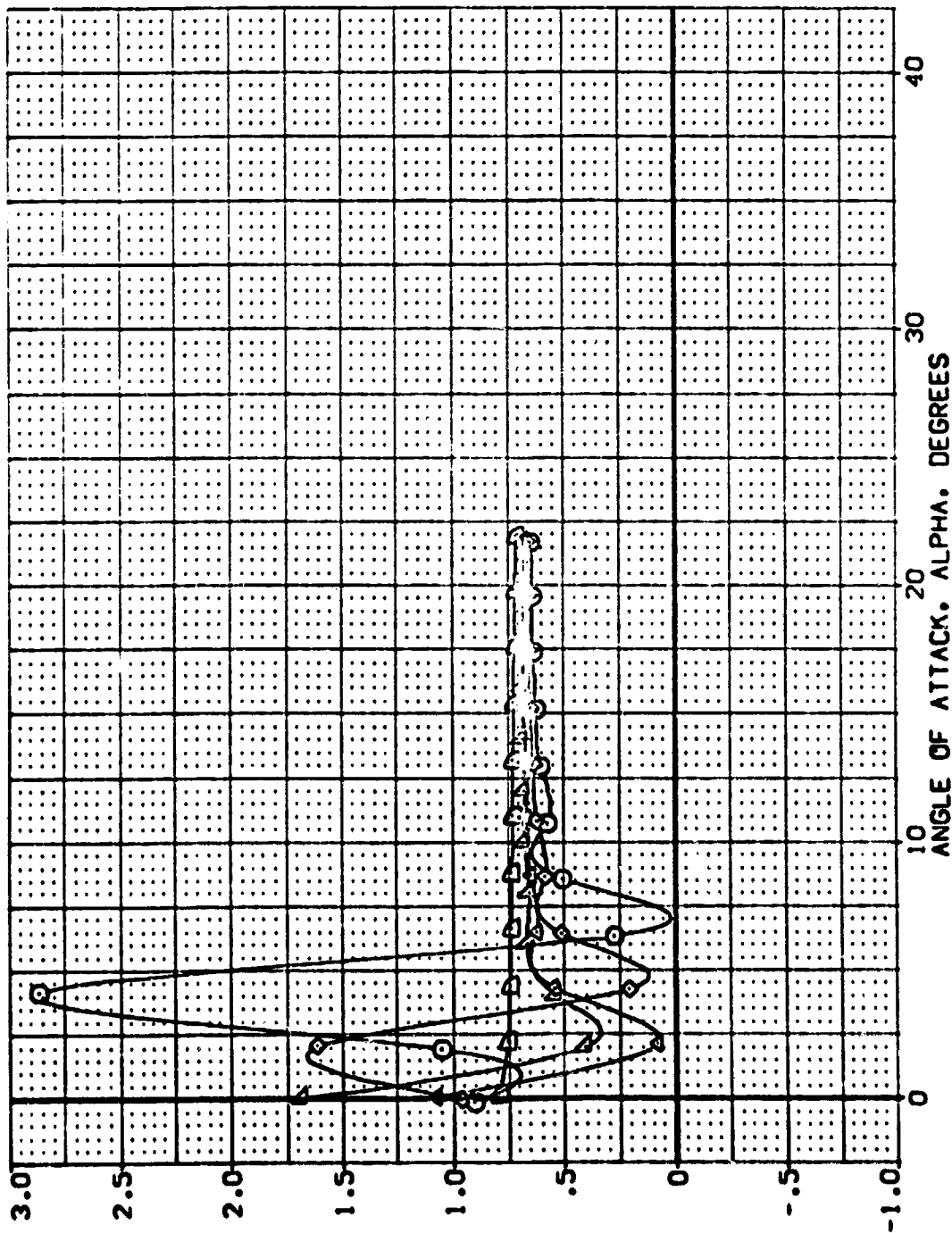


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)MACH = .89

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBARK	AILTRON	REFERENCE INFORMATION	SO. FT
(E92001)	MSFC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	-23.650	-11.700	75.550	-370	SREF 2741.8000	IN.
(E92117)	DATA NOT AVAILABLE	-23.810	-11.700	75.550	-240	LREF 481.6480	IN.
(E92002)	MSFC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	75.550	-100	BREF 936.7000	IN.
(E92003)	MSFC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	75.550	-630	MARP 1081.3500	IN.
(Z92004)	MSFC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	.000	-11.700	75.550	-1.680	ZMARP .0000	IN.
(E92005)	MSFC 581(DA49) ORB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	75.550	-1.680	ZMARP .0000	IN.
						SCALE	.0040

CENTER OF PRESSURE LOCATION BASED ON BODY LENGTH, XCP/L

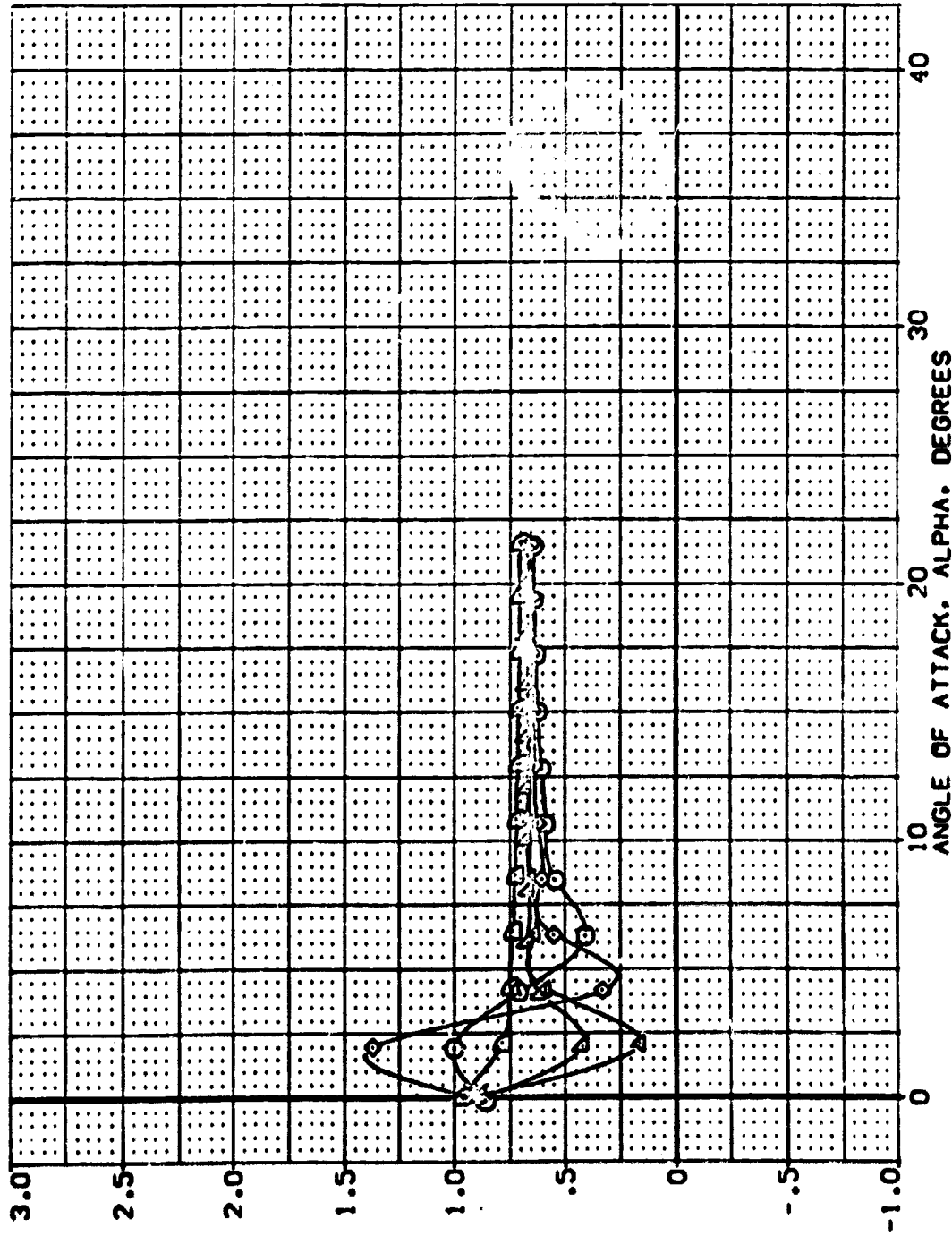


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(O)MACH = 1.46

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDCLAP	SPDRBK	AILRON	REFERENCE INFORMATION
(E92001)	MSFC 581(OA49) ORB 34-0 (BD7M) (VE)(VR)	-33.650	-11.700	25.550	-370	SREF 2741.8000 SQ. FT
(E92117)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-240	LREF 481.5480 IN.
(E92002)	MSFC 581(OA49) ORB 34-0 (BD7M) (VE)(VR)	-15.550	-11.700	25.550	-400	OREF 936.7000 IN.
(E92003)	MSFC 581(OA49) ORB 34-0 (BD7M) (VE)(VR)	-4.310	-11.700	25.550	-630	XPRP 1081.3500 IN.
(E92004)	MSFC 581(OA49) ORB 34-0 (BD7M) (VE)(VR)	.000	-11.700	25.550	-1440	YPRP .0000 IN.
(E92005)	MSFC 581(OA49) ORB 34-0 (BD7M) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZPRP .0000 IN.
						SCALE .0010

CENTER OF PRESSURE LOCATION BASED ON BODY LENGTH, XCP/L



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)MACH = 1.95

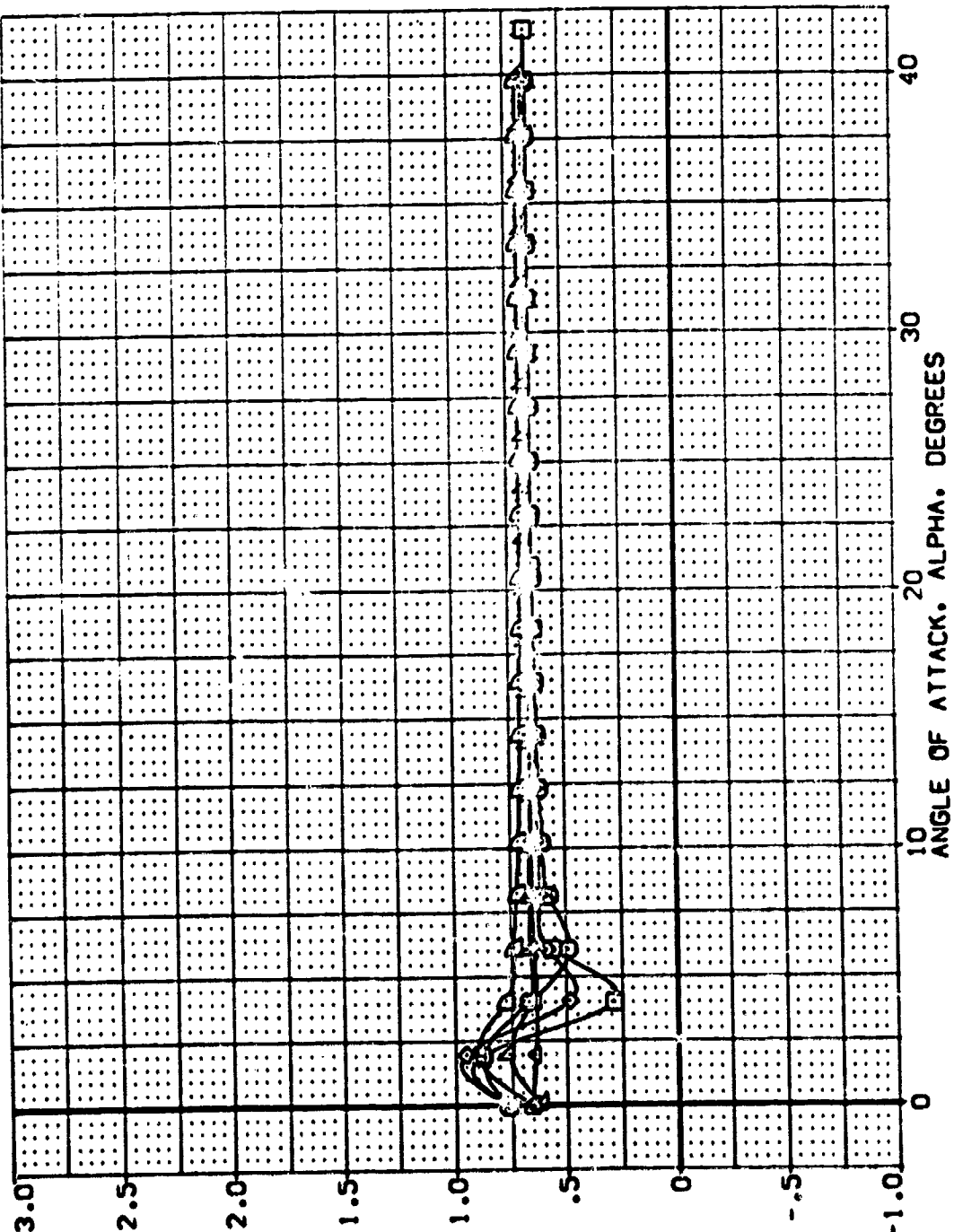
DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION 50. FT

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	REFERENCE INFORMATION	50. FT
(E92001)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE1)(VR)	SREF 2741.8000	IN.
(E92117)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE1)(VR)	LREF 481.6480	IN.
(E92002)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE1)(VR)	BREF 936.7000	IN.
(E92003)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE1)(VR)	YMRP 1081.2800	IN.
(E92004)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE1)(VR)	ZMRP .0000	IN.
(E92005)	MSFC 581 (0A19) ORB 34-0 (BCFM) (VE1)(VR)	ZMRP .0040	IN.

ELEVTR BDCLAP SPDBRK AILTRON

ELEVTR	BDCLAP	SPDBRK	AILTRON
-23.650	-11.700	25.550	-320
-23.840	-11.700	25.550	-240
-15.550	-11.700	25.550	-100
-4.310	-11.700	25.550	-630
.000	-11.700	25.550	-1.680
16.790	-11.700	25.550	

SCALE



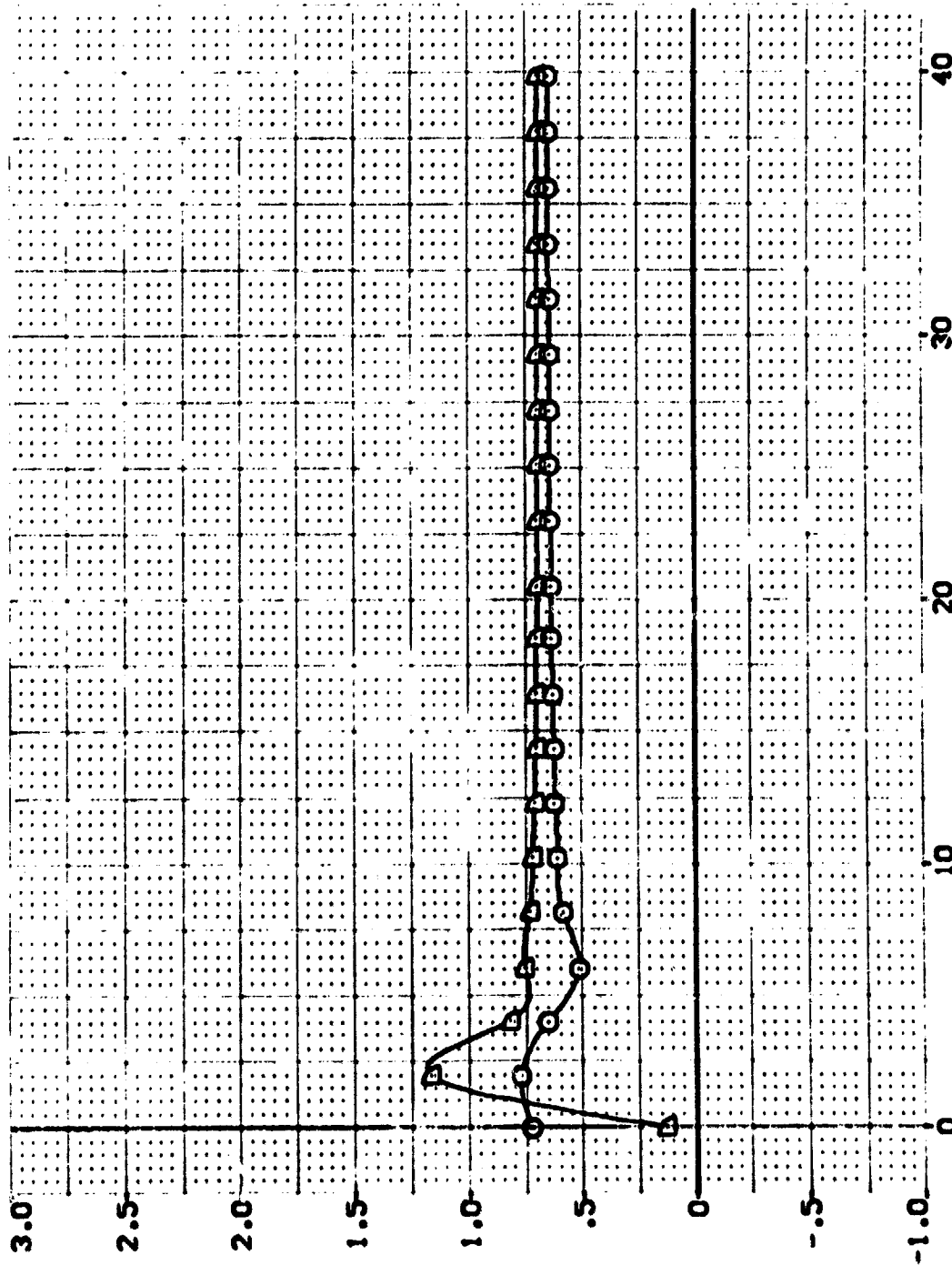
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(F)MACH = 2.99

CENTER OF PRESSURE LOCATION BASED ON BODY LENGTH, XCP/L

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (E20001) MSC 581(OA49) OMB 34-0 (BDFH) (VE)(VR)
 (E20017) DATA NOT AVAILABLE
 (E20022) DATA NOT AVAILABLE
 (E20033) DATA NOT AVAILABLE
 (E20034) DATA NOT AVAILABLE
 (E20035) MSC 581(OA49) OMB 34-0 (BDFH) (VE)(VR)

ELEVTR BDFLAP SPOBRK AIRLON REFERENCE INFORMATION
 -23.650 -11.700 25.550 -1.800 SREF 2741.8000 SQ. FT
 -23.040 -11.700 25.550 -1.800 LREF 481.6450 IN.
 -15.550 -11.700 25.550 -1.800 BREF 936.7000 IN.
 -4.310 -11.700 25.550 -1.800 XHRRP 1081.3500 IN.
 16.750 -11.700 25.550 -1.800 YHRRP 0.0000 IN.
 0.000 -11.700 25.550 -1.800 ZHRRP 0.0000 IN.
 SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS

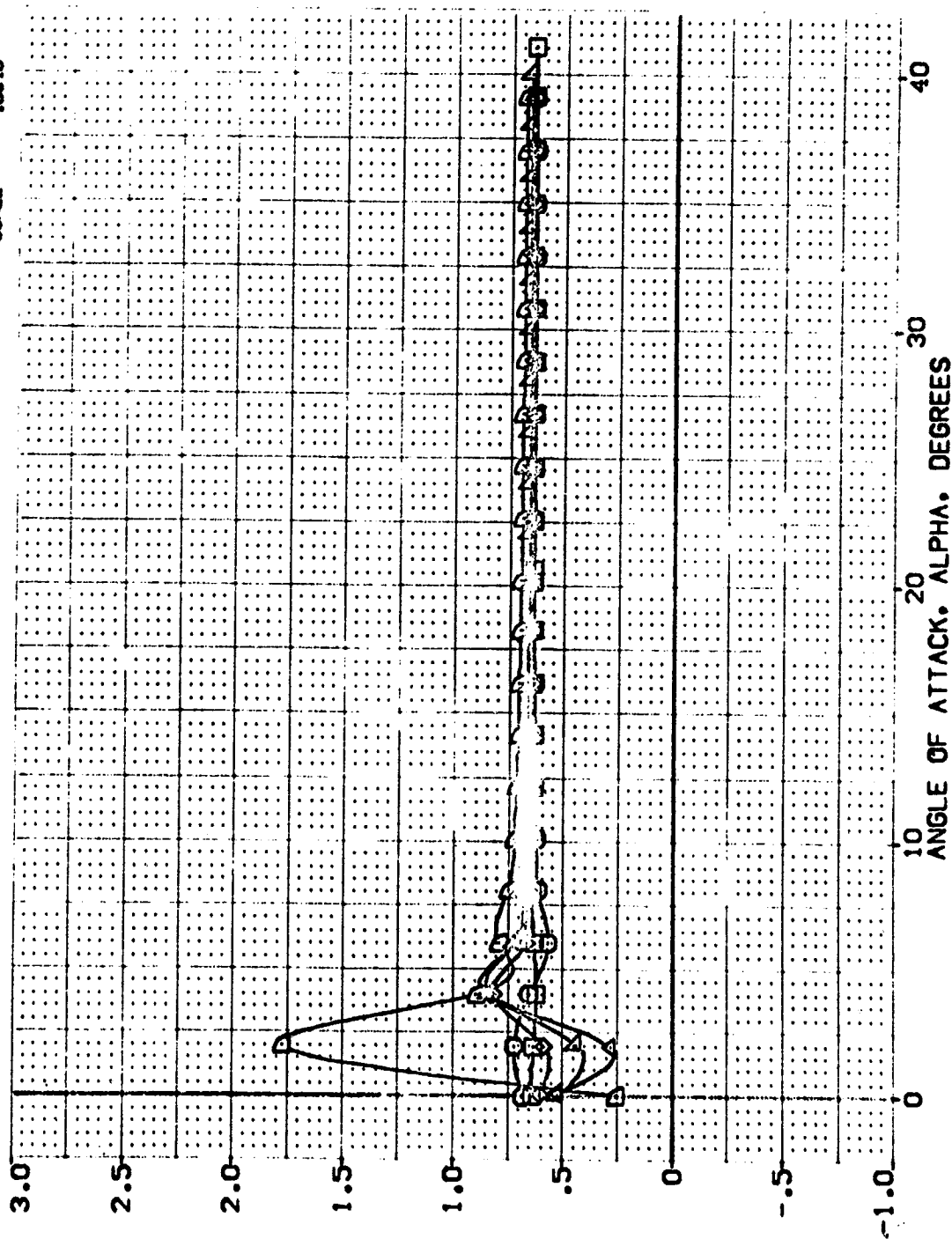
(G)MACH = 4.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
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[E92002] [E92002] [E92002] [E92002] [E92002] [E92002] [E92002] [E92002] [E92002] [E92002]
[E92003] [E92003] [E92003] [E92003] [E92003] [E92003] [E92003] [E92003] [E92003] [E92003]
[E92004] [E92004] [E92004] [E92004] [E92004] [E92004] [E92004] [E92004] [E92004] [E92004]
[E92005] [E92005] [E92005] [E92005] [E92005] [E92005] [E92005] [E92005] [E92005] [E92005]

CONFIGURATION DESCRIPTION

ELEVTR BDFLAP SPDBRK AILRON REFERENCE INFORMATION
-33.650 -11.700 25.550 -320 2741.8000 50. FT
-23.840 -11.700 25.550 -240 481.6480 IN:
-15.550 -11.700 25.550 -190 536.7000 IN:
-4.310 -11.700 25.550 1081.3500 IN:
.000 -11.700 25.550 0.0000 IN:
16.750 -11.700 25.550 0.0000 IN:
SCALE .0010



INTERPOLATED ZERO ELEVON CHARACTERISTICS

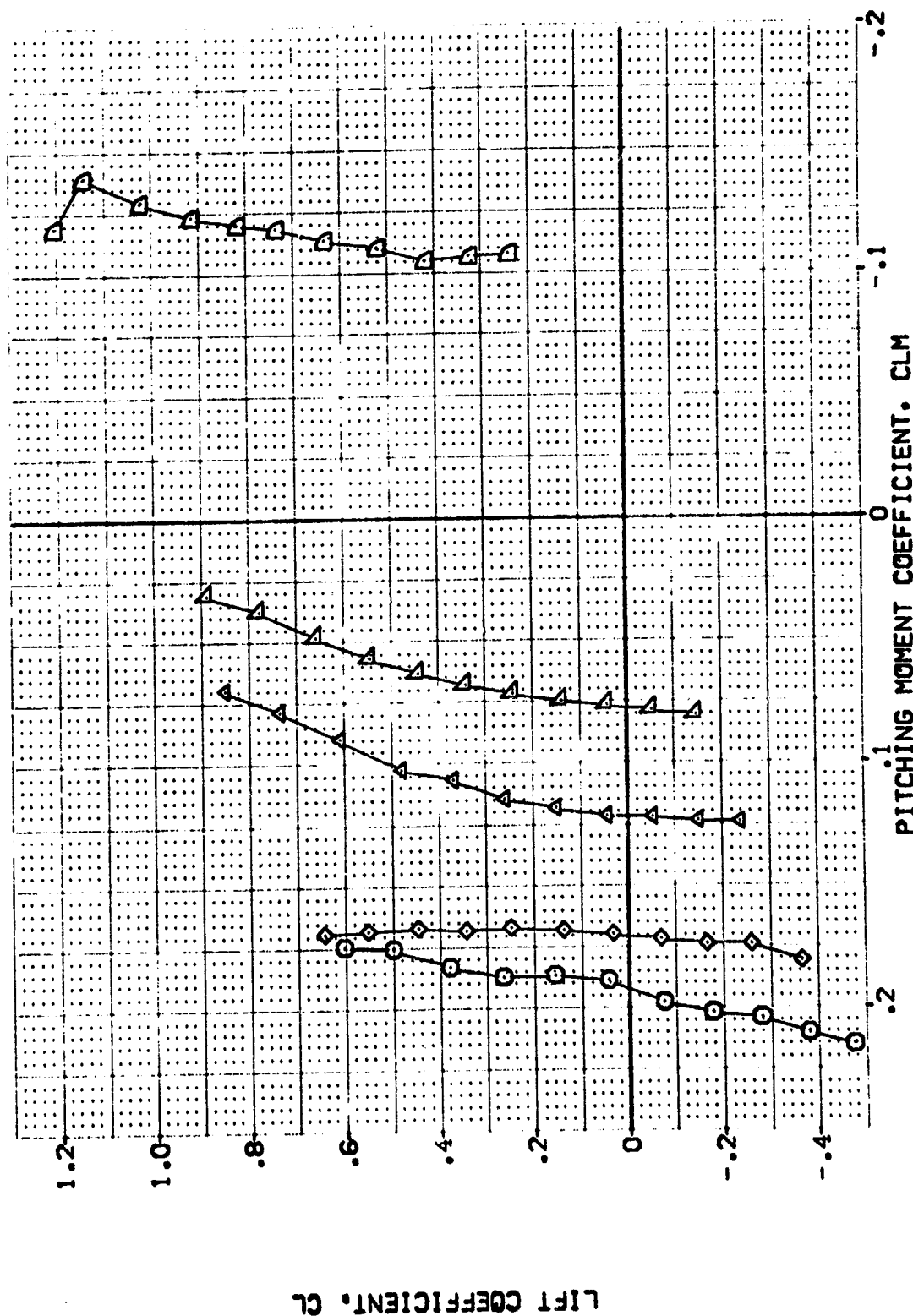
(M)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION SQ. FT

(E92001)	MSC 581(OA49) DB 34-0 (BCFM) (VE)(VR)	SREF	2741.8000	IN.
(E92117)	DATA NOT AVAILABLE	LREF	481.6480	IN.
(E92502)	MSC 531(OA43) C-3 34-0 (BCFM) (VE)(VR)	BREF	836.7000	IN.
(E92503)	MSC 531(OA43) C-3 34-0 (BCFM) (VE)(VR)	XMRP	1081.3500	IN.
(E92504)	MSC 581(OA49) DB 34-0 (BCFM) (VE)(VR)	YMRP	.0000	IN.
(E92505)	MSC 581(OA49) DB 34-0 (BCFM) (VE)(VR)	ZMRP	.0000	IN.
		SCALE	.0040	

ELEVTR BOFLAP SPOBRK AILRON

-20.650	-11.700	25.550	-1.320
-23.840	-11.700	25.550	-1.240
-15.550	-11.700	25.550	-1.400
-4.310	-11.700	25.550	-1.630
16.790	-11.700	25.550	-1.680



INTERPOLATED ZERO ELEVON CHARACTERISTICS

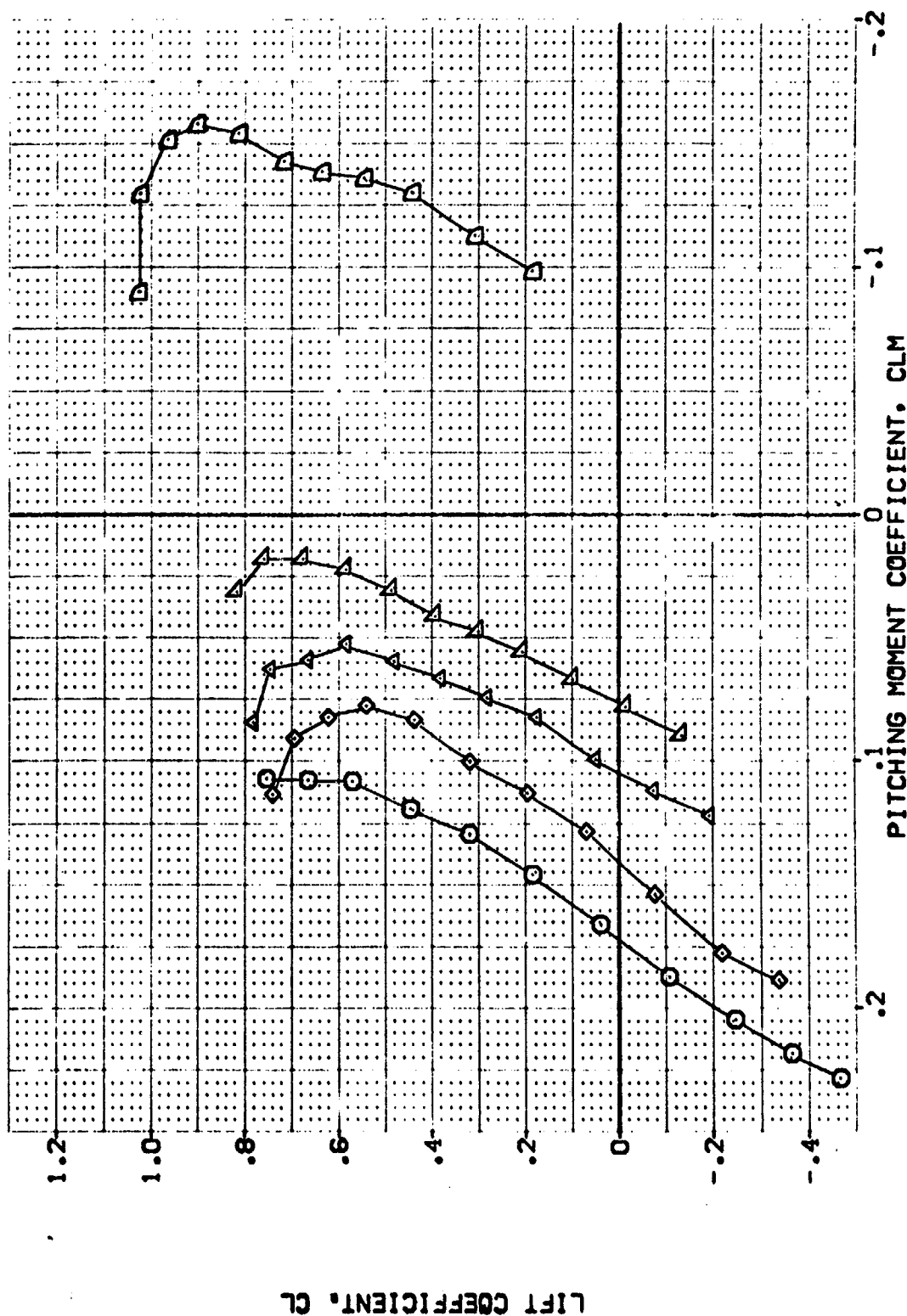
(A)MACH = .60

DATA SET SYMBOL: (E92001) (E92002) (E92003) (E92004) (E92005)

CONFIGURATION DESCRIPTION: MSC 581(OA9) DB 34-0 (BOFM) (NE)(VR) DATA NOT AVAILABLE MSC 581(OA9) DB 34-0 (BOFM) (NE)(VR) MSC 581(OA9) DB 34-0 (BOFM) (NE)(VR) MSC 581(OA9) DB 34-0 (BOFM) (NE)(VR) MSC 581(OA9) DB 34-0 (BOFM) (NE)(VR)

ELEVTR BOFLAP SPOBRK AILTRN REFERENCE INFORMATION SQ. FT

-33.650	-11.700	25.550	-320	SREF	2741.8000	50. FT
-23.840	-11.700	25.550	-240	LREF	481.6480	IN.
-15.550	-11.700	25.550	-400	BREF	936.7000	IN.
-4.310	-11.700	25.550	-630	XMRP	1081.3500	IN.
.000	-11.700	25.550	-1.680	YMRP	.0000	IN.
16.790	-11.700	25.550		ZMRP	.0000	IN.
				SCALE	.0040	



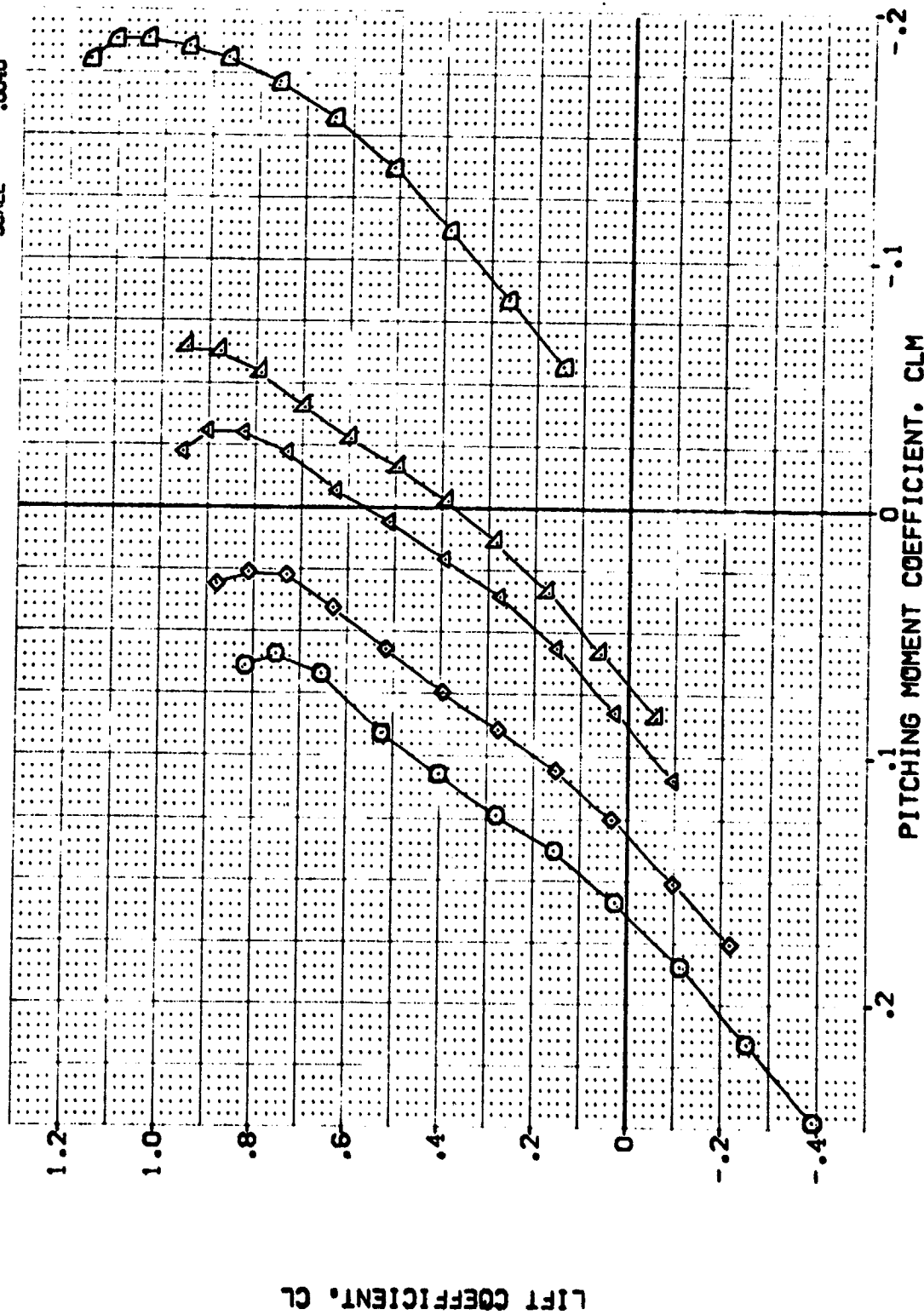
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)MACH = .89



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (E20001) HSC 581(DA9) C8B 34-0 (BCFH) (VE)(VR)
 (E20002) DATA NOT AVAILABLE
 (E20003) HSC 581(DA9) C8B 34-0 (BCFH) (VE)(VR)
 (E20004) HSC 581(DA9) C8B 34-0 (BCFH) (VE)(VR)
 (E20005) HSC 581(DA9) C8B 34-0 (BCFH) (VE)(VR)

ELEVTR BOFLAP SPOBRK AILRON REFERENCE INFORMATION
 -33.650 -11.700 25.550 -0.320 SREF 2741.8000 SQ. FT
 -22.840 -11.700 25.550 -0.240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -0.400 BREF 936.7000 IN.
 -4.310 -11.700 25.550 -0.630 YARP 1081.3900 IN.
 16.790 -11.700 25.550 -1.680 ZARP 1000 IN.
 SCALE 0.0040

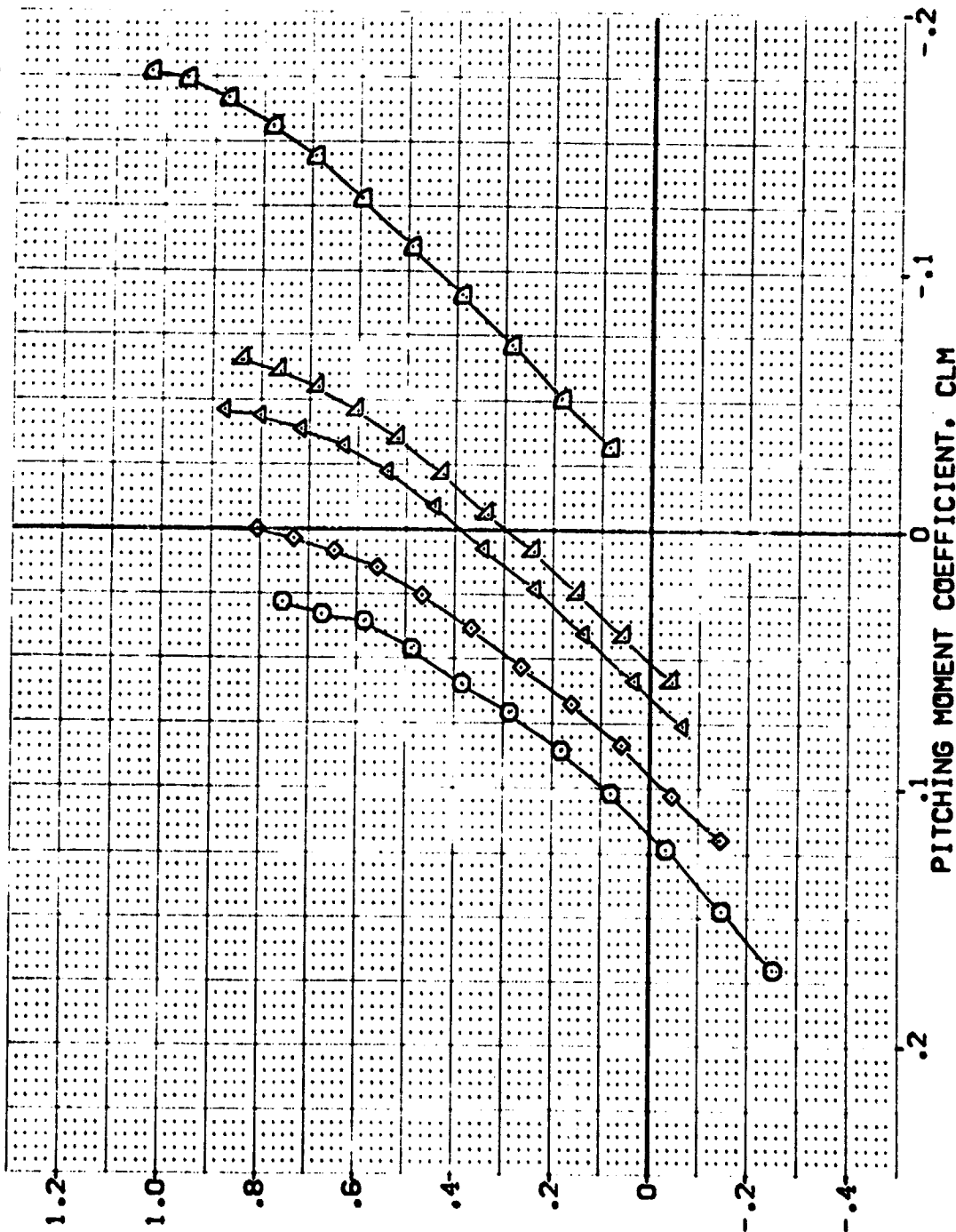


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(CMACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (E92001) MSFC 581(CA45) DB 3A-0 (BOFM) (VE)(VR)
 (E92117) DATA NOT AVAILABLE
 (E92122) MSFC 581(CA45) DB 3A-0 (BOFM) (VE)(VR)
 (E92133) MSFC 581(CA45) DB 3A-0 (BOFM) (VE)(VR)
 (E92134) MSFC 581(CA45) DB 3A-0 (BOFM) (VE)(VR)
 (E92205) MSFC 581(CA45) DB 3A-0 (BOFM) (VE)(VR)

ELEVTR BOFLAP SPDRK AIRRON REFERENCE INFORMATION FT
 -33.650 -11.700 25.550 -320 2741.8000 50. FT
 -22.840 -11.700 25.550 -240 481.6480 IN.
 -15.550 -11.700 25.550 -400 936.7000 IN.
 -4.310 -11.700 25.550 -630 1081.3500 IN.
 .000 -11.700 25.550 -0000 IN.
 16.750 -11.700 25.550 -0000 IN.
 SCALE .0040



LIFT COEFFICIENT, CL

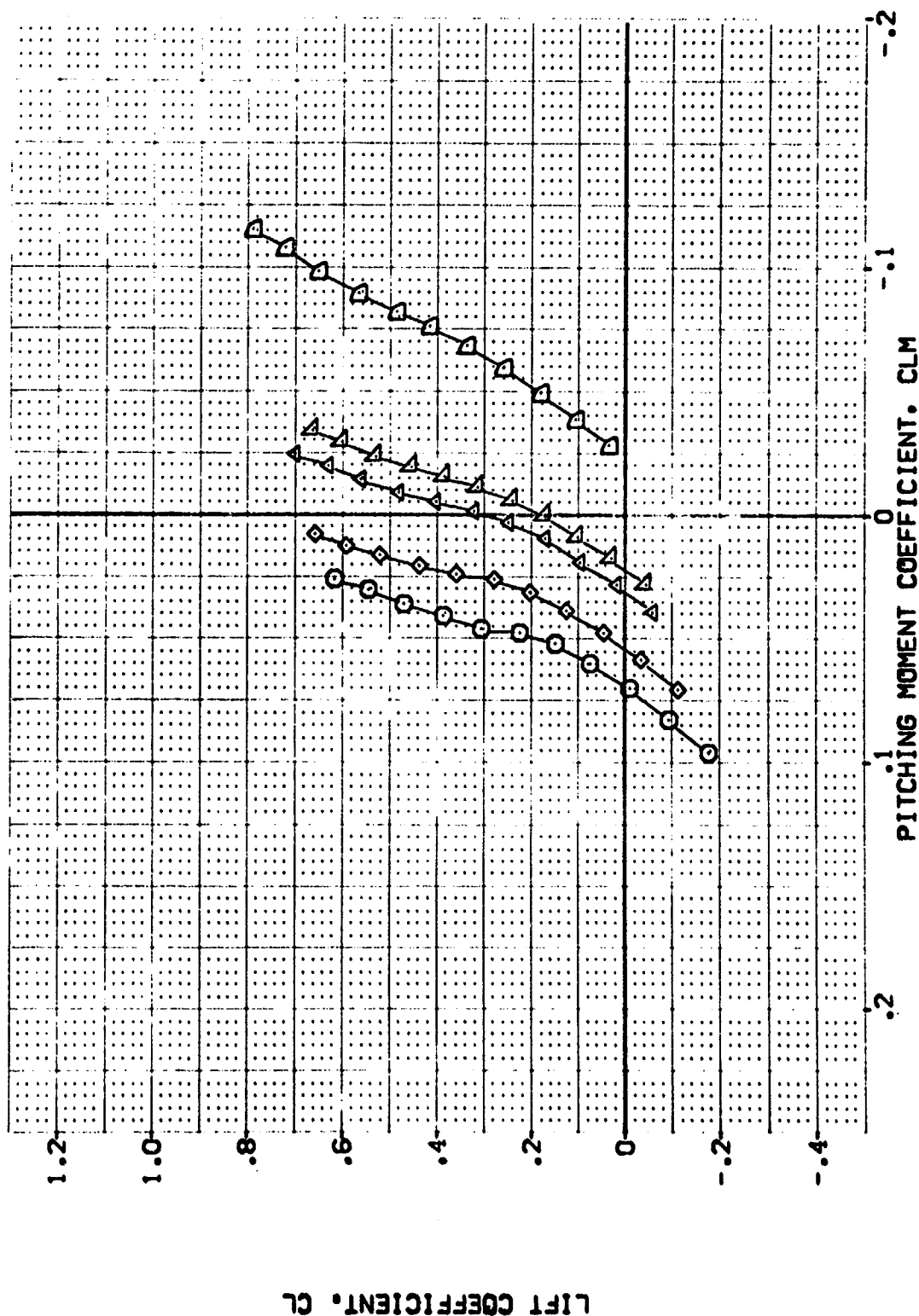
PITCHING MOMENT COEFFICIENT, CLM

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(D)MACH = 1.46

DATA SET SREF. CONFIGURATION DESCRIPTION

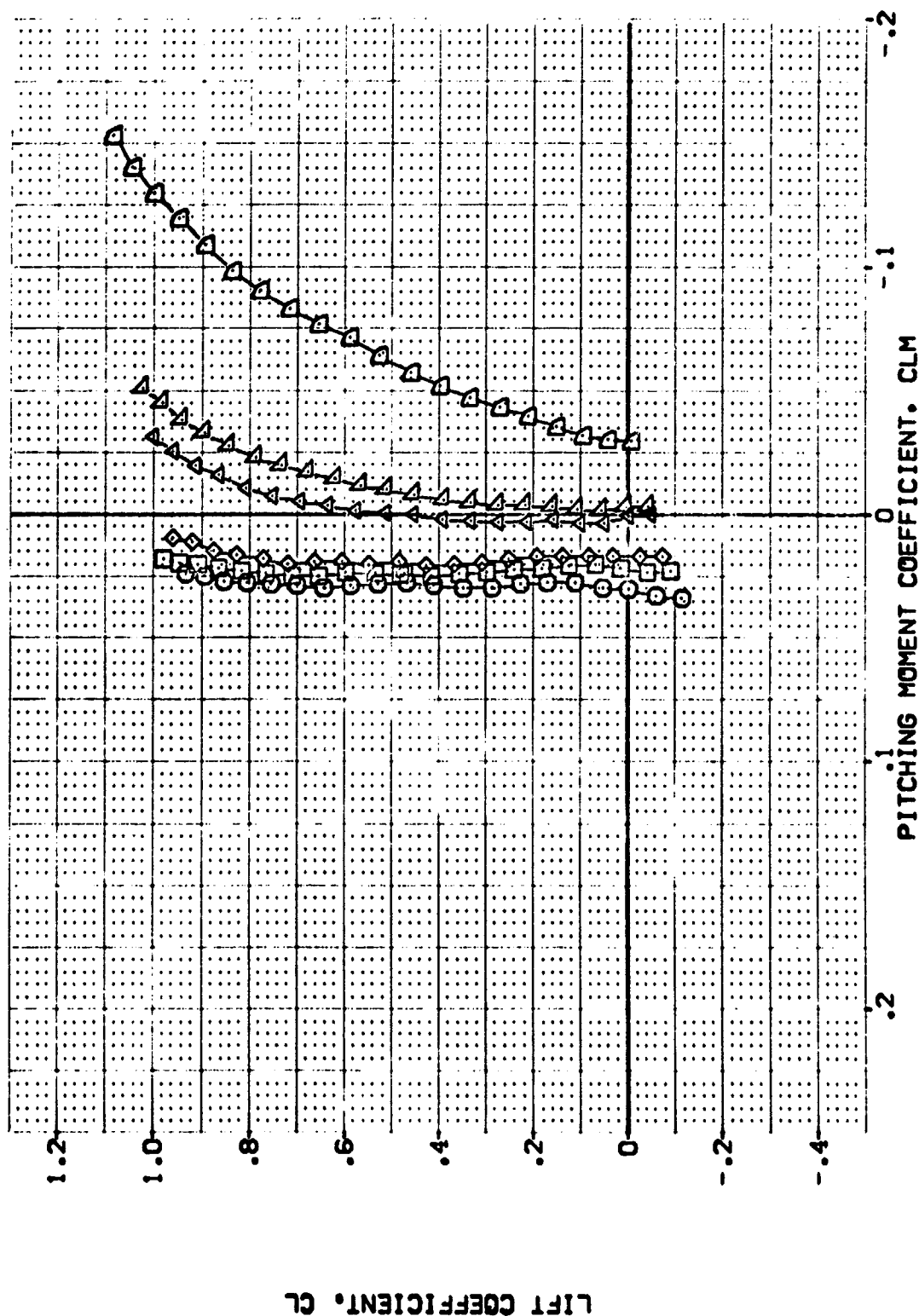
DATA SET SREF.	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDRBK	AIRLRN	REFERENCE INFORMATION
(E92001)	MSFC 581(OA49) DB 34-0 (BCH) (VE1VR)	-23.650	-11.700	25.550	-320	SREF 2741.8000 50. FT
(E92017)	DATA NOT AVAILABLE	-23.640	-11.700	25.550	-240	LREF 481.6480 IN.
(E92002)	MSFC 531(OA49) C-3 34-0 (BCH) (VE1VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
(E92003)	MSFC 531(OA49) DB 34-0 (BCH) (VE1VR)	-4.310	-11.700	25.550	-630	XMRP 1081.3500 IN.
(E92004)	MSFC 531(OA49) DB 34-0 (BCH) (VE1VR)	.000	-11.700	25.550	-000	YMRP .0000 IN.
(E92005)	MSFC 581(OA49) DB 34-0 (BCH) (VE1VR)	16.750	-11.700	25.550	-1.680	ZMRP .0000 IN.
						SCALE .0010



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)MACH = 1.95

ELEVTR	BDFLAP	SPDBRK	AIRLON	REFERENCE INFORMATION	
33.650	-11.700	25.550	-320	SREF	2741.9000
29.840	-11.700	22.550	-240	LREF	481.6480
15.350	-11.700	22.550	-240	BREF	506.6480
-4.310	-11.700	22.550	-650	XREF	1081.3500
00.000	-11.700	22.550		VREF	0000.0000
16.750	-11.700	22.550	-1.680	ZREF	0000.0000
				SCALE	.0040



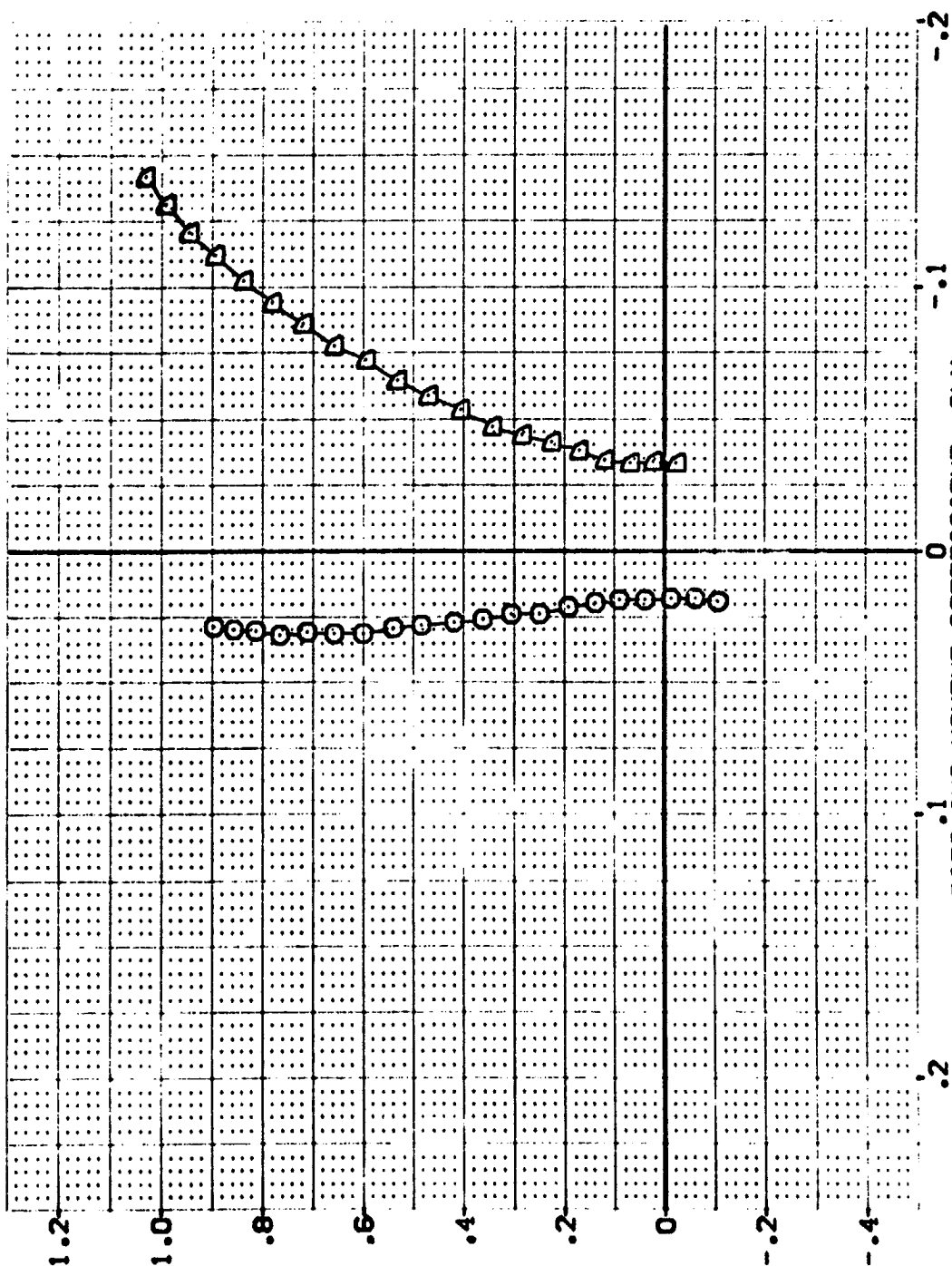
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(F)MACH = 2.99



DATA SET SYMB. CONFIGURATION DESCRIPTION
 (E92001) MSFC 581(0449) 058 34-0 (BDTH) (VE)(VR)
 (E92117) DATA NOT AVAILABLE
 (E92022) DATA NOT AVAILABLE
 (E92033) DATA NOT AVAILABLE
 (E92034) DATA NOT AVAILABLE
 (E92035) MSFC 581(0449) 058 34-0 (BDTH) (VE)(VR)

ELEVTR 80FLAP SP05BK ALTRON REFERENCE INFORMATION
 -23.650 -11.700 25.550 -320 SREF 2741.8000 SQ. FT
 -23.840 -11.700 25.550 -240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -400 BREF 936.7000 IN.
 -4.310 -11.700 25.550 -630 XMRP 1081.3500 IN.
 .000 -11.700 25.550 -000 YMRP .0000 IN.
 16.750 -11.700 25.550 -1.680 ZMRP .0040 IN.
 SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(G)MACH = 4.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

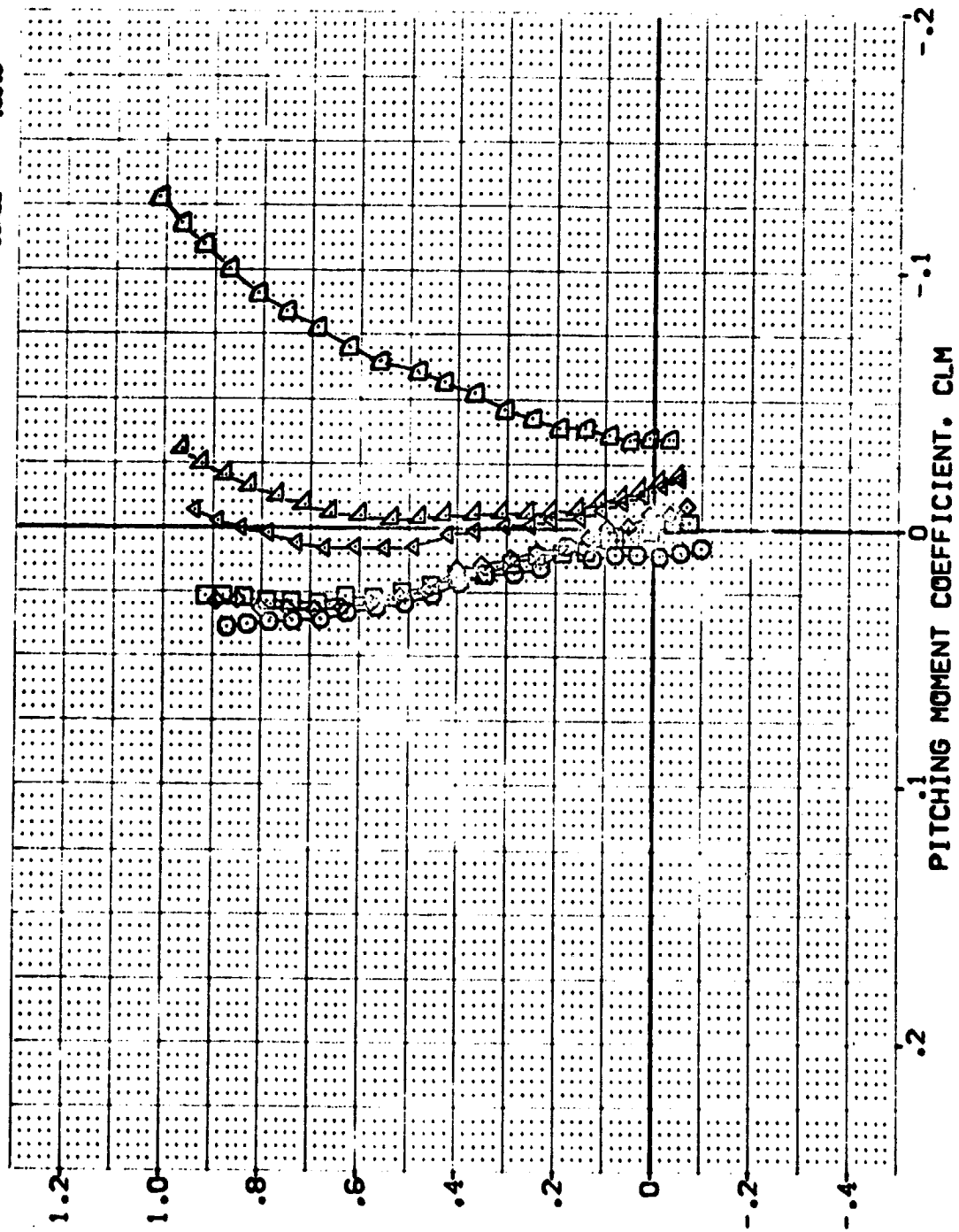
(E32001)	MSFC S81(OA49) DB 34-0 (BOFH) (VE)(VR)
(E32117)	MSFC S81(OA49) DB 34-0 (BOFH) (VE)(VR)
(E32002)	MSFC S81(OA49) DB 34-0 (BOFH) (VE)(VR)
(E32003)	MSFC S81(OA49) DB 34-0 (BOFH) (VE)(VR)
(E32004)	MSFC S81(OA49) DB 34-0 (BOFH) (VE)(VR)
(E32005)	MSFC S81(OA49) DB 34-0 (BOFH) (VE)(VR)

ELEVTR 80FLAP 80DBRK AILRON

-30.650	-11.700	25.550	-320
-23.840	-11.700	25.550	-240
-15.550	-11.700	25.550	-400
-4.310	-11.700	25.550	-630
16.750	-11.700	25.550	-1.680

REFERENCE INFORMATION

SREF	2741	8000	50	FT
LREF	481	5480	IN	
BREF	536	7000	IN	
XPRP	1081	3500	IN	
YPRP		0000	IN	
ZPRP		0000	IN	
SCALE		0040		



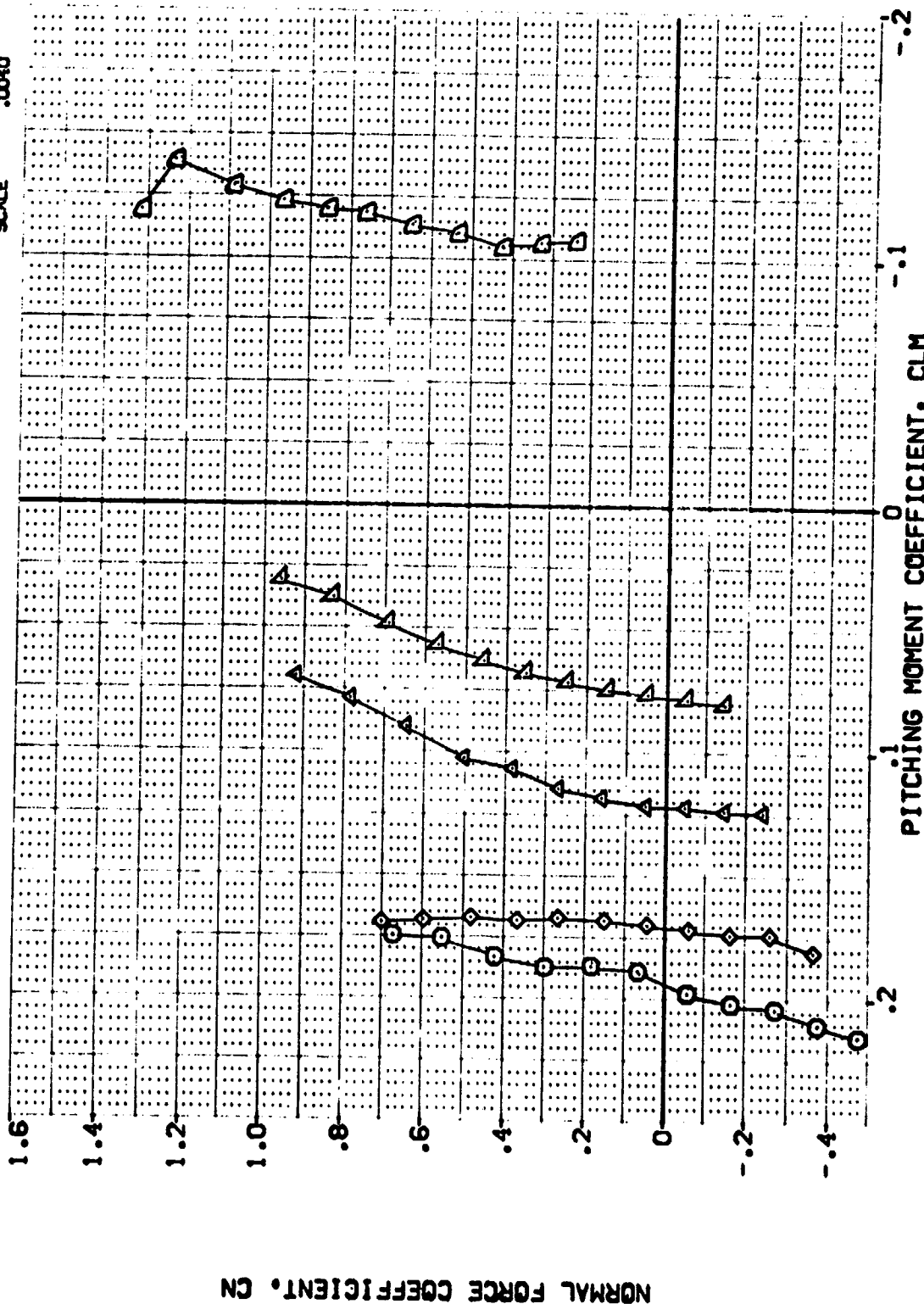
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(H)MACH = 4.96

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DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPDBRK	AILERON	REFERENCE INFORMATION
(E32001)	NSFC 501 (CA49) DB 34-0 (BDTH) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(E32117)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-0.240	LREF 481.6480 IN.
(E32202)	NSFC 531 (CA49) C-3 34-0 (BDTH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 956.7000 IN.
(E32303)	NSFC 531 (CA49) DB 34-0 (BDTH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	WREF 1081.3900 IN.
(E32304)	NSFC 581 (CA49) DB 34-0 (BDTH) (VE)(VR)	16.790	-11.700	25.550	-1.680	YREF .0000 IN.
(E32305)						ZREF .0040 IN.

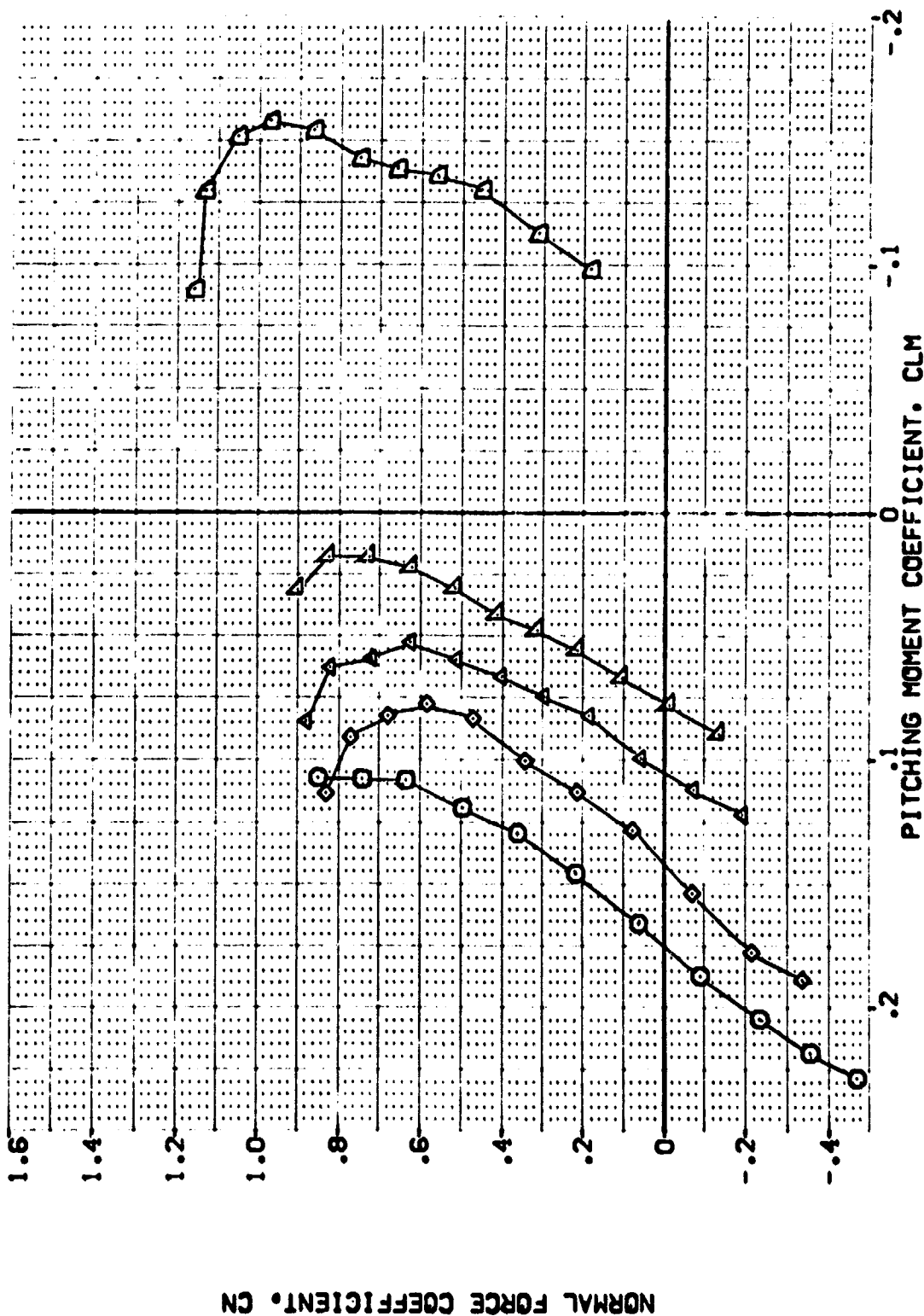


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (E92001) NSFC S81(DA49) 078 3A-0 (BDPM) (NE)(VR)
 (E92117) DATA NOT AVAILABLE
 (E92202) NSFC S81(CA49) 078 3A-0 (BDPM) (NE)(VR)
 (E92203) NSFC S81(CA49) 078 3A-0 (BDPM) (NE)(VR)
 (E92204) NSFC S81(CA49) 078 3A-0 (BDPM) (NE)(VR)
 (E92205) NSFC S81(DA49) 078 3A-0 (BDPM) (NE)(VR)

ELEVTR BDPLAP SPDBRK ALLORN REFERENCE INFORMATION
 -23.650 -11.700 25.550 -320 9REF 2741.8000 SQ. FT
 -23.840 -11.700 25.550 -340 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -400 BREF 936.7000 IN.
 -4.310 -11.700 25.550 -630 XREF 1081.3500 IN.
 16.750 -11.700 25.550 -1.680 YREF .0000 IN.
 SCALE .0040



NORMAL FORCE COEFFICIENT, CN

PITCHING MOMENT COEFFICIENT, CLM

INTERPOLATED ZERO ELEVON CHARACTERISTICS

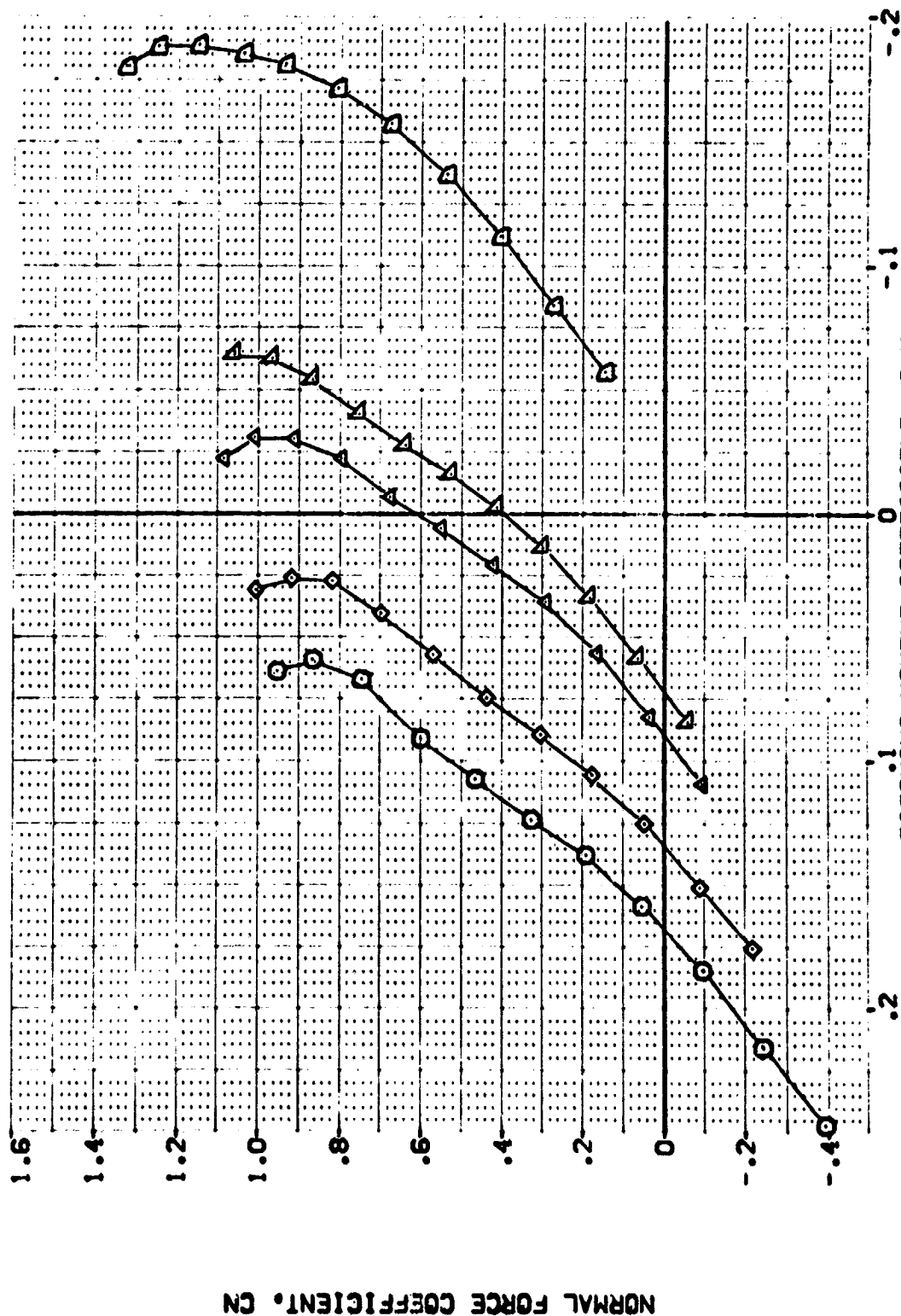
(B)MACH = .89



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (E2001) NSFC 581(0445) DBS 34-0 (BOTH) (VE)(VR)
 (E2117) DATA NOT AVAILABLE
 (E2132) NSFC 581(0445) DBS 34-0 (BOTH) (VE)(VR)
 (E2133) NSFC 581(0445) DBS 34-0 (BOTH) (VE)(VR)
 (E2134) NSFC 581(0445) DBS 34-0 (BOTH) (VE)(VR)
 (E2135) NSFC 581(0445) DBS 34-0 (BOTH) (VE)(VR)
 (E2136) NSFC 581(0445) DBS 34-0 (BOTH) (VE)(VR)

ELEVTR 8DFLAP SPDBRK AILDRN
 -33.650 -11.700 25.550 -320
 -23.840 -11.700 25.550 -240
 -15.550 -11.700 25.550 -400
 -4.310 -11.700 25.550 -630
 .000 -11.700 25.550 -1.680
 16.750 -11.700 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040

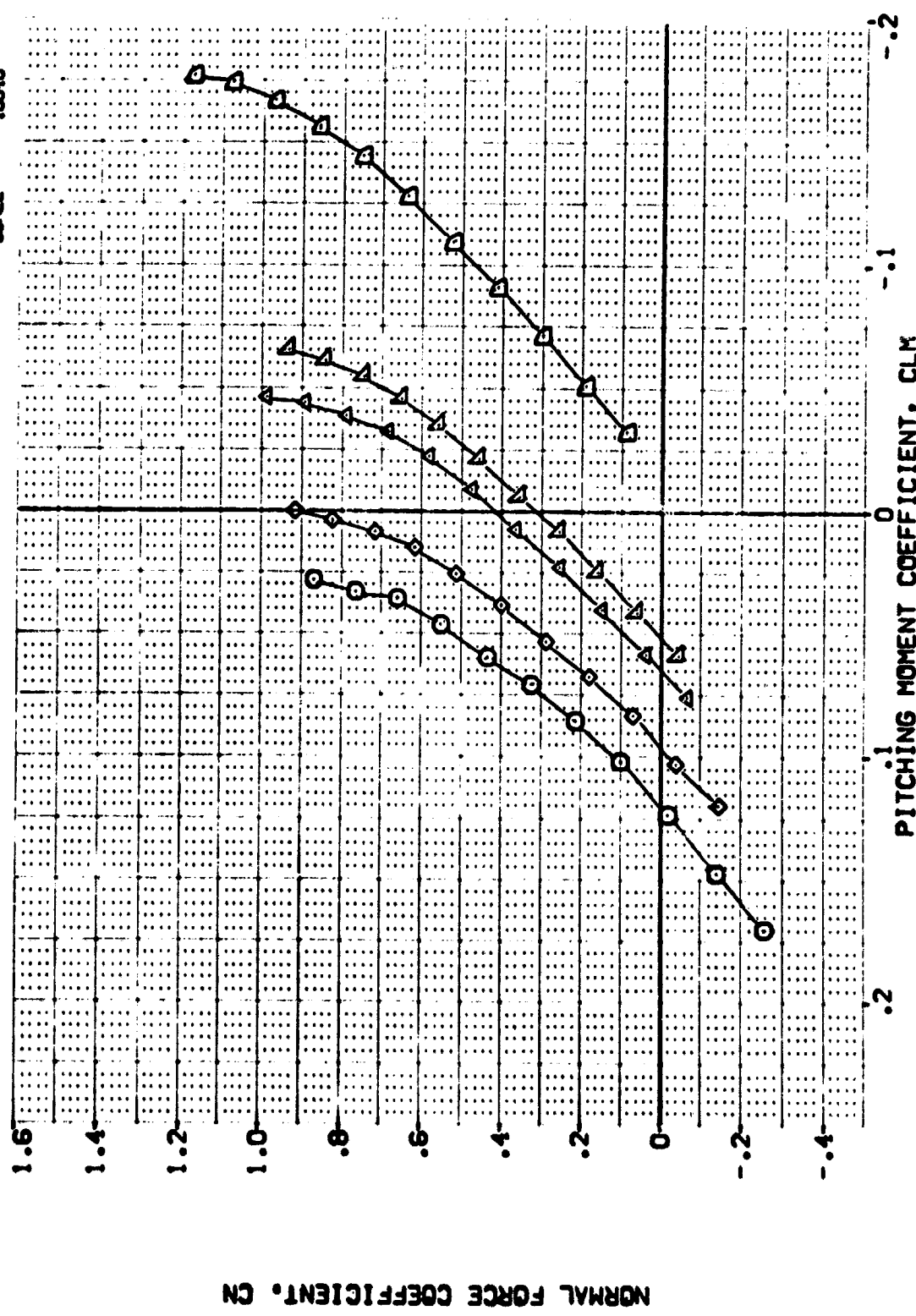


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (E22001) MFC S01(CA43) DB 34-0 (BDPM) (NE)(VR)
 (E22117) DATA NOT AVAILABLE
 (E22122) MFC S01(CA43) DB 34-0 (BDPM) (NE)(VR)
 (E22133) MFC S01(CA43) DB 34-0 (BDPM) (NE)(VR)
 (E22134) MFC S01(CA43) DB 34-0 (BDPM) (NE)(VR)
 (E22005) MFC S01(CA43) DB 34-0 (BDPM) (NE)(VR)

ELEVTR EDP LAP SPDBRK ALLON REFERENCE INFORMATION SQ. FT.
 -23.650 -11.700 25.550 -1.220 SREF 2741.8000 IN.
 -23.840 -11.700 25.550 -1.240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -1.400 BREF 506.7000 IN.
 -4.310 -11.700 25.550 -1.630 TRAP 1081.3500 IN.
 16.750 -11.700 25.550 -1.680 ZTRAP 0.0000 IN.
 SCALE .0040

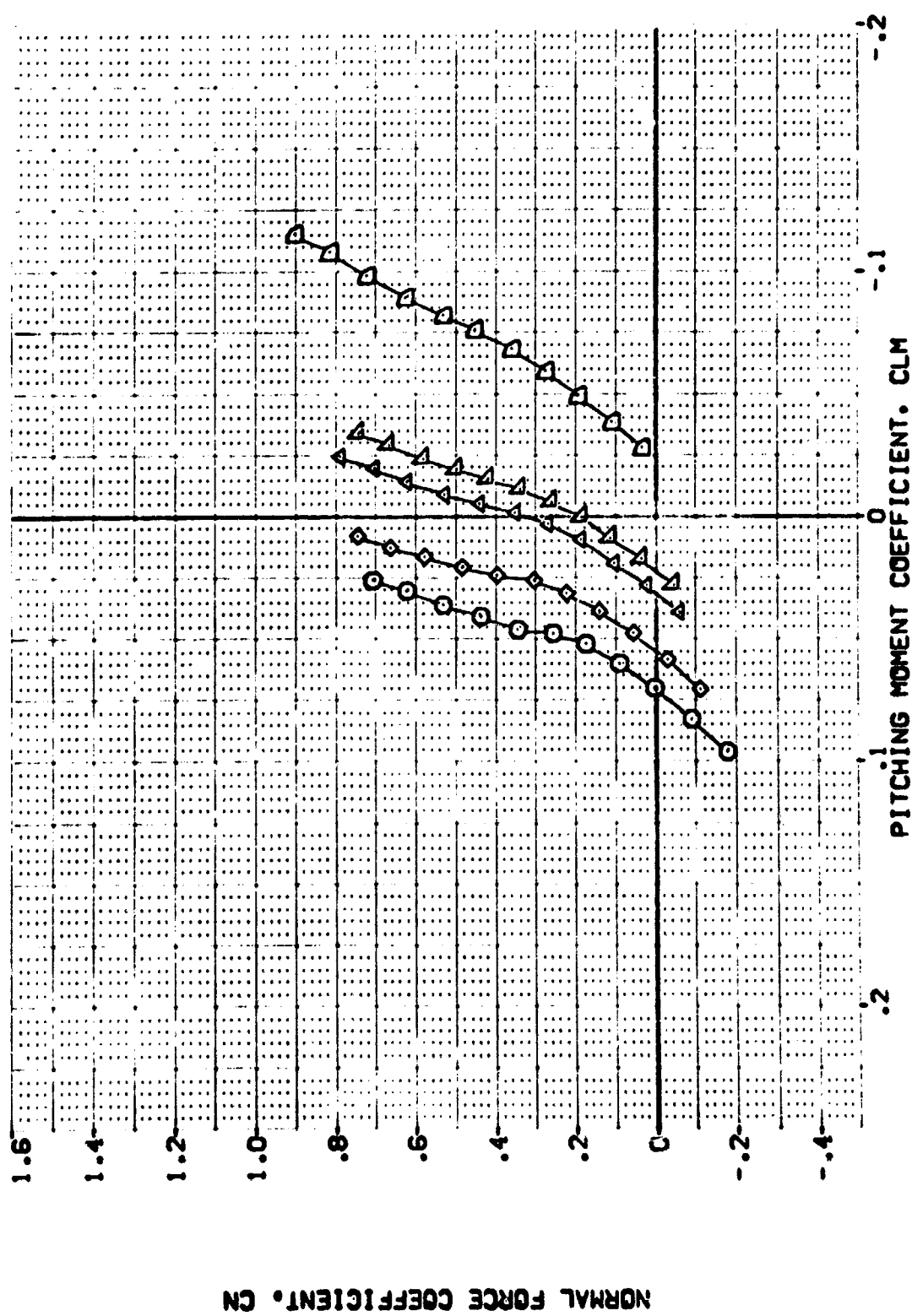


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)MACH = 1.46



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEV	BOFLAP	SPDRK	AILERON	REFERENCE INFORMATION
(E)2001	REFC 531 (DA49) 038 34-0 (BDH) (WE) (VR)	-33.650	-11.700	25.550	-0.320	REF 2741.8000 52. FT
(E)2017	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-0.240	LREF 481.6480 IN.
(E)2022	REFC 531 (DA49) 038 34-0 (BDH) (WE) (VR)	-15.550	-11.700	25.550	-0.400	BREF 536.7000 IN.
(E)2033	REFC 531 (DA49) 038 34-0 (BDH) (WE) (VR)	-4.310	-11.700	25.550	-0.630	XREF 1081.3500 IN.
(E)2034	REFC 531 (DA49) 038 34-0 (BDH) (WE) (VR)	16.790	-11.700	25.550	-1.680	YREF 0.0000 IN.
(E)2005						ZREF 0.0040 IN.



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)MACH = 1.95

DATA SET SYMBOL

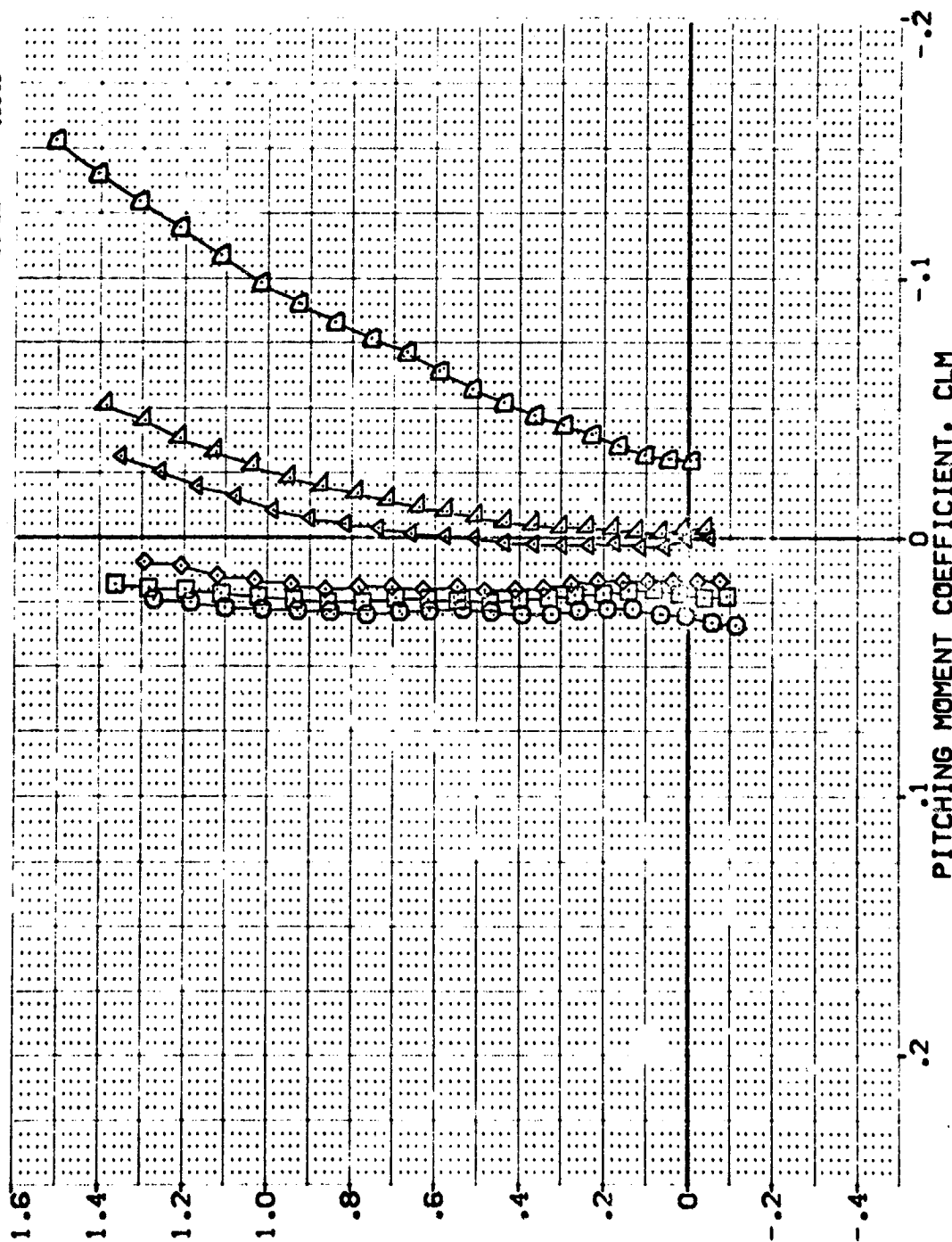
CONFIGURATION DESCRIPTION

HSFC 501 (DA49) 033 34-0 (BDTH) (VE)(VR)
 HSFC 501 (DA49) 033 34-0 (BDTH) (VE)(VR)
 HSFC 501 (DA49) 033 34-0 (BDTH) (VE)(VR)
 HSFC 501 (DA49) 033 34-0 (BDTH) (VE)(VR)
 HSFC 501 (DA49) 033 34-0 (BDTH) (VE)(VR)

ELEVTR BDCLAP SPOBRK AILRON

REFERENCE INFORMATION

NORMAL FORCE COEFFICIENT, CN



INTERPOLATED ZERO ELEVON CHARACTERISTICS

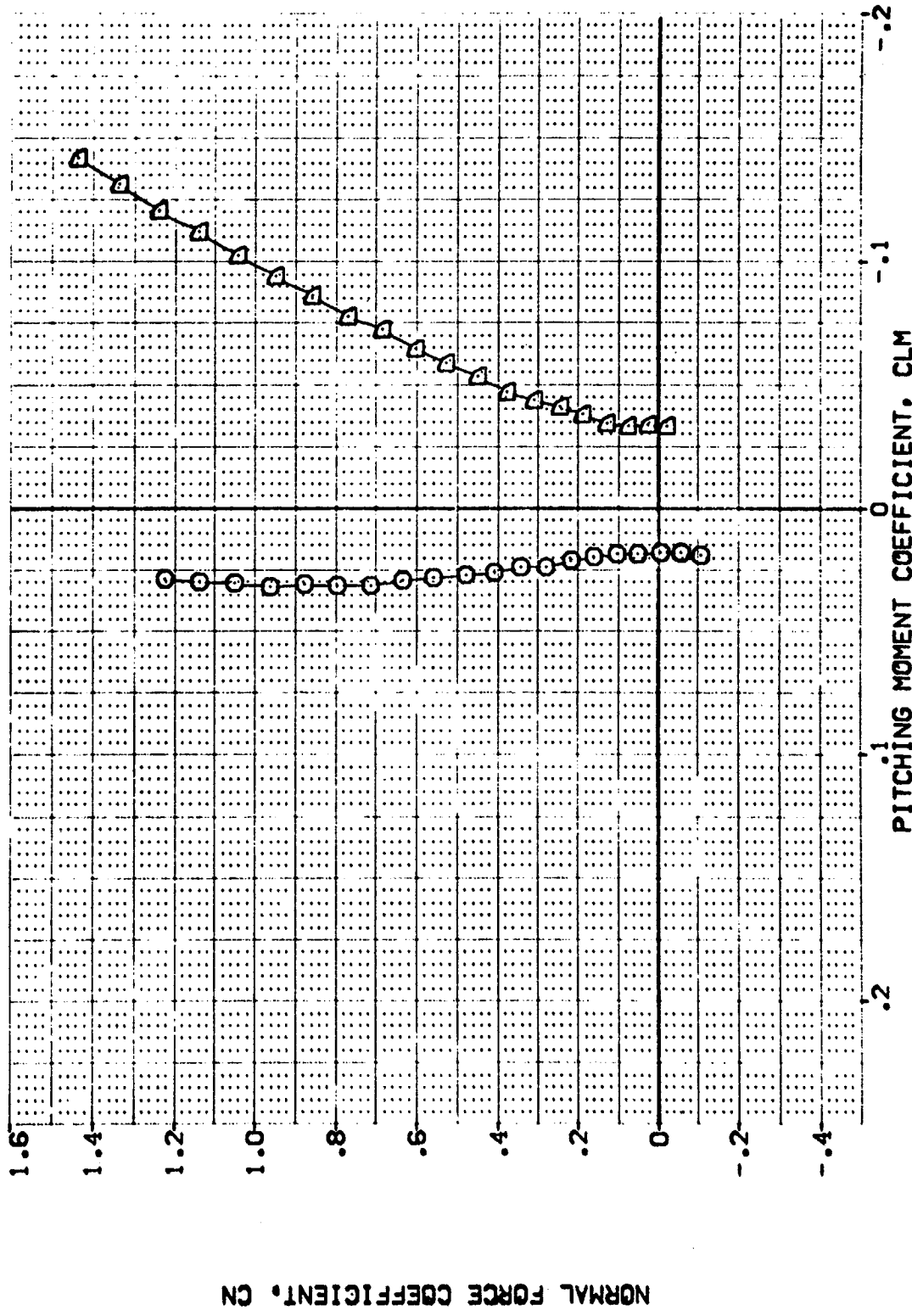
(F)MACH = 2.99

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DATA SET SYMB. CONFIGURATION DESCRIPTION
 (E92001) MSFC 581(0449) ORB 34-0 (BDTH) (VE)(VR)
 (E92117) DATA NOT AVAILABLE
 (E92002) DATA NOT AVAILABLE
 (E92003) DATA NOT AVAILABLE
 (E92004) DATA NOT AVAILABLE
 (E92005) MSFC 581(0449) ORB 34-0 (BDTH) (VE)(VR)

ELEVTR BOFLAP SPDRBK AILRON REFERENCE INFORMATION
 -33.650 -11.700 25.550 -1.320 SREF 2741.8000 SQ. FT
 -23.640 -11.700 25.550 -1.240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -1.400 BREF 936.7000 IN.
 -4.310 -11.700 25.550 -1.630 XREF 1081.3500 IN.
 .000 -11.700 25.550 YMRP .0000 IN.
 16.750 -11.700 25.550 ZMRP .0000 IN.
 SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

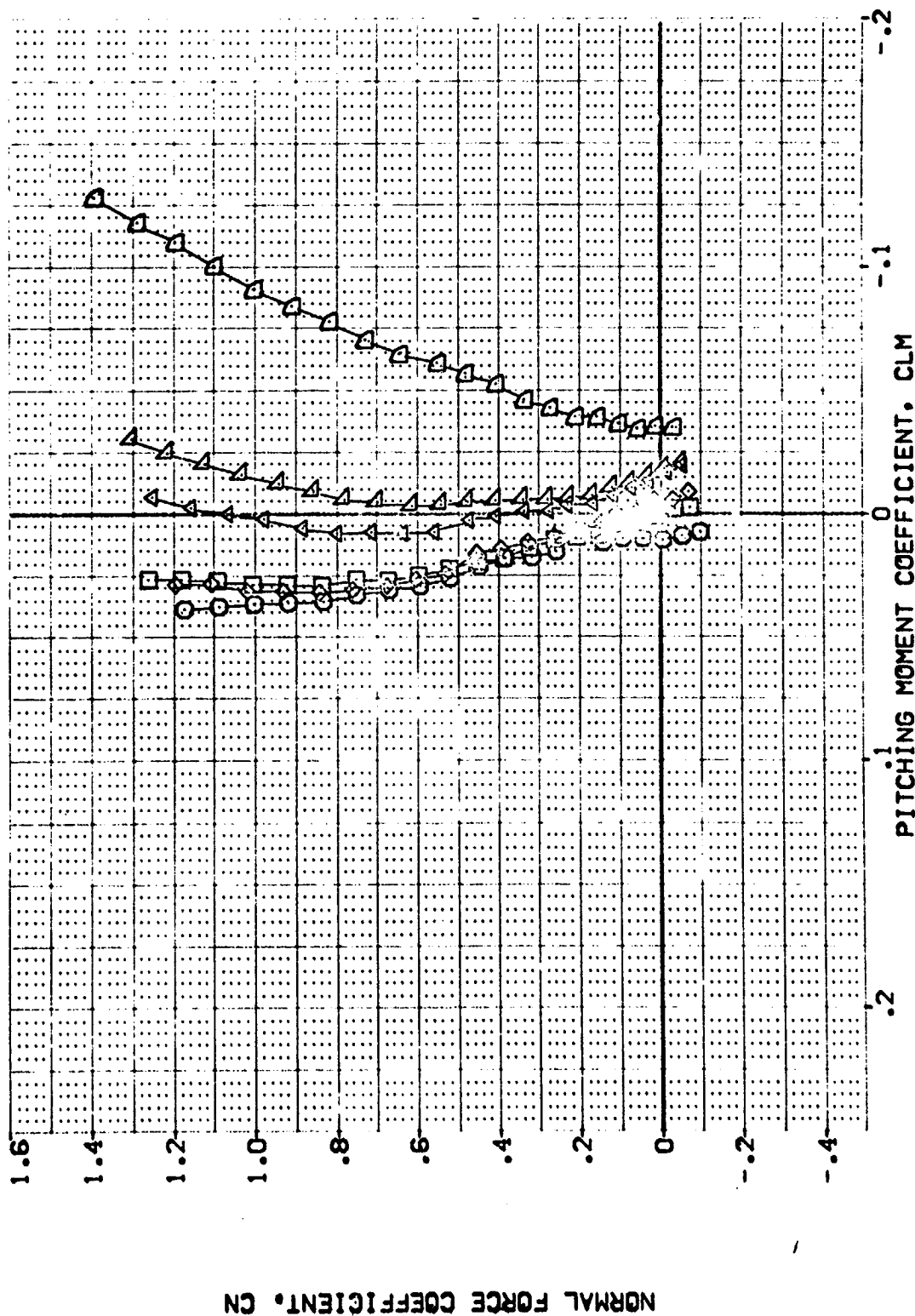
CGMACH = 4.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

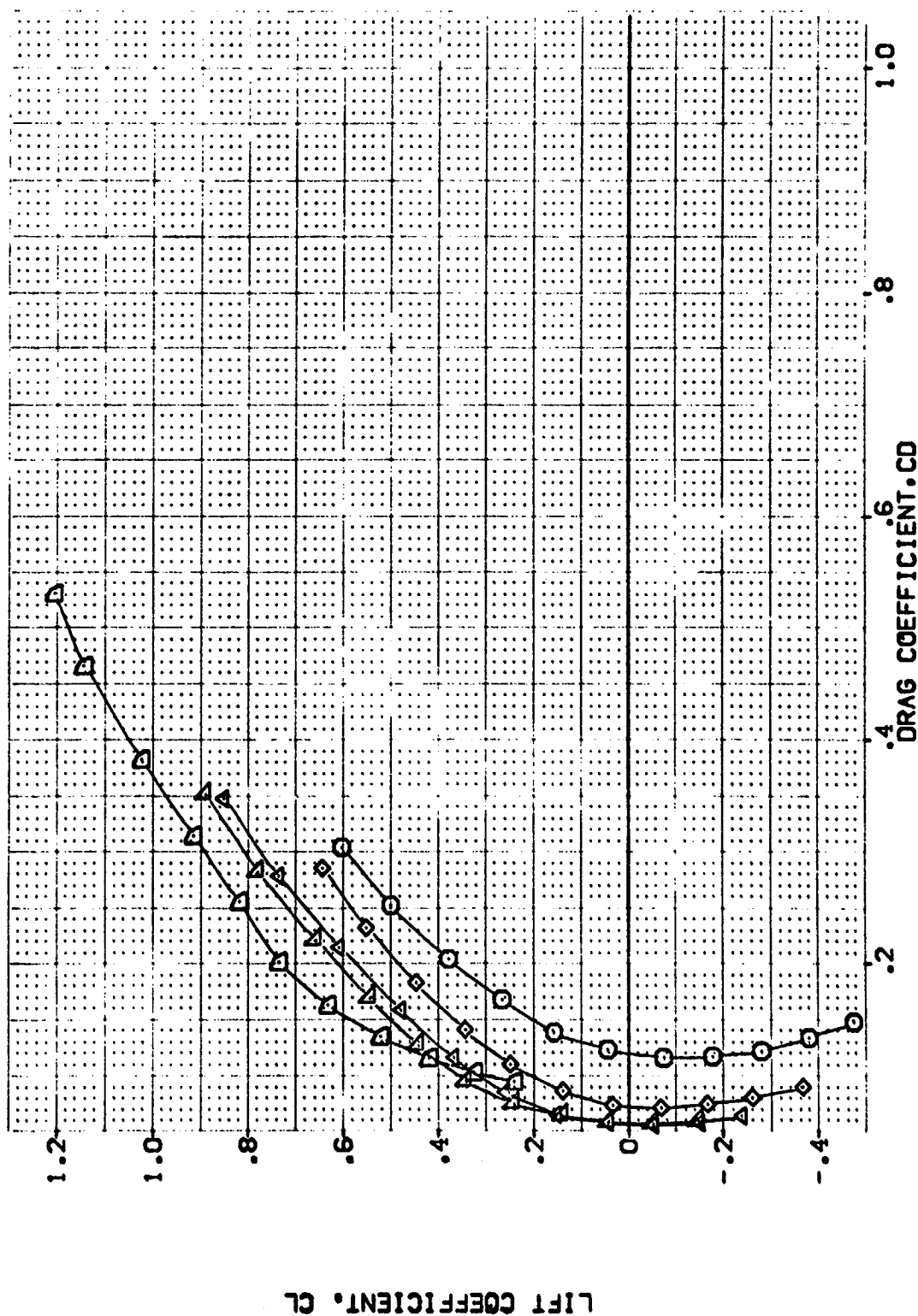
{E92001} MSFC 591(DA49) 0RB 34-0 (BOFH) (VE)(VR)
 {E92117} MSFC 531(DA49) 0C3 34-0 (BOFH) (VE)(VR)
 {E92002} MSFC 531(DA49) 0C3 34-0 (BOFH) (VE)(VR)
 {E92003} MSFC 531(DA49) 0C3 34-0 (BOFH) (VE)(VR)
 {E92004} MSFC 591(DA49) 0RB 34-0 (BOFH) (VE)(VR)
 {E92005} MSFC 591(DA49) 0RB 34-0 (BOFH) (VE)(VR)

ELEVTR 80FLAP SPDRK AILRON
 -33.650 -11.700 25.550
 -23.840 -11.700 25.550
 -15.550 -11.700 25.550
 -4.310 -11.700 25.550
 16.750 -11.700 25.550
 SCALE

REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 491.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.2800 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
[E92001]	MSFC 501(DA49) DB 34-0 (BOTH) (VE)(VR)	-39.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
[E92117]	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-0.240	LREF 481.6480 IN.
[E92002]	MSFC 501(DA49) DB 34-0 (BOTH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
[E92003]	MSFC 501(DA49) DB 34-0 (BOTH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP 1081.3900 IN.
[Z92004]	MSFC 501(DA49) DB 34-0 (BOTH) (VE)(VR)	0.000	-11.700	25.550	0.000	YMRP 0.0000 IN.
[E92005]	MSFC 501(DA49) DB 34-0 (BOTH) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZMRP 0.0000 IN.
						SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(A)MACH = .60

DATA SET SYMBOL

[E32001]
 [E32117]
 [E32002]
 [E32003]
 [E32004]
 [E32005]

CONFIGURATION DESCRIPTION

MSFC 581(0A19) ORB 34-0 (BCFH) (VE)(VR)
 DATA NOT AVAILABLE
 MSFC 581(0A19) ORB 34-0 (BCFH) (VE)(VR)
 MSFC 581(0A19) ORB 34-0 (BCFH) (VE)(VR)
 MSFC 581(0A19) ORB 34-0 (BCFH) (VE)(VR)
 MSFC 581(0A19) ORB 34-0 (BCFH) (VE)(VR)

ELEVTR

-23.650
 -23.640
 -15.550
 -4.310
 .000
 16.790

BDFLAP

-11.700
 -11.700
 -11.700
 -11.700
 -11.700
 -11.700

SPODBK

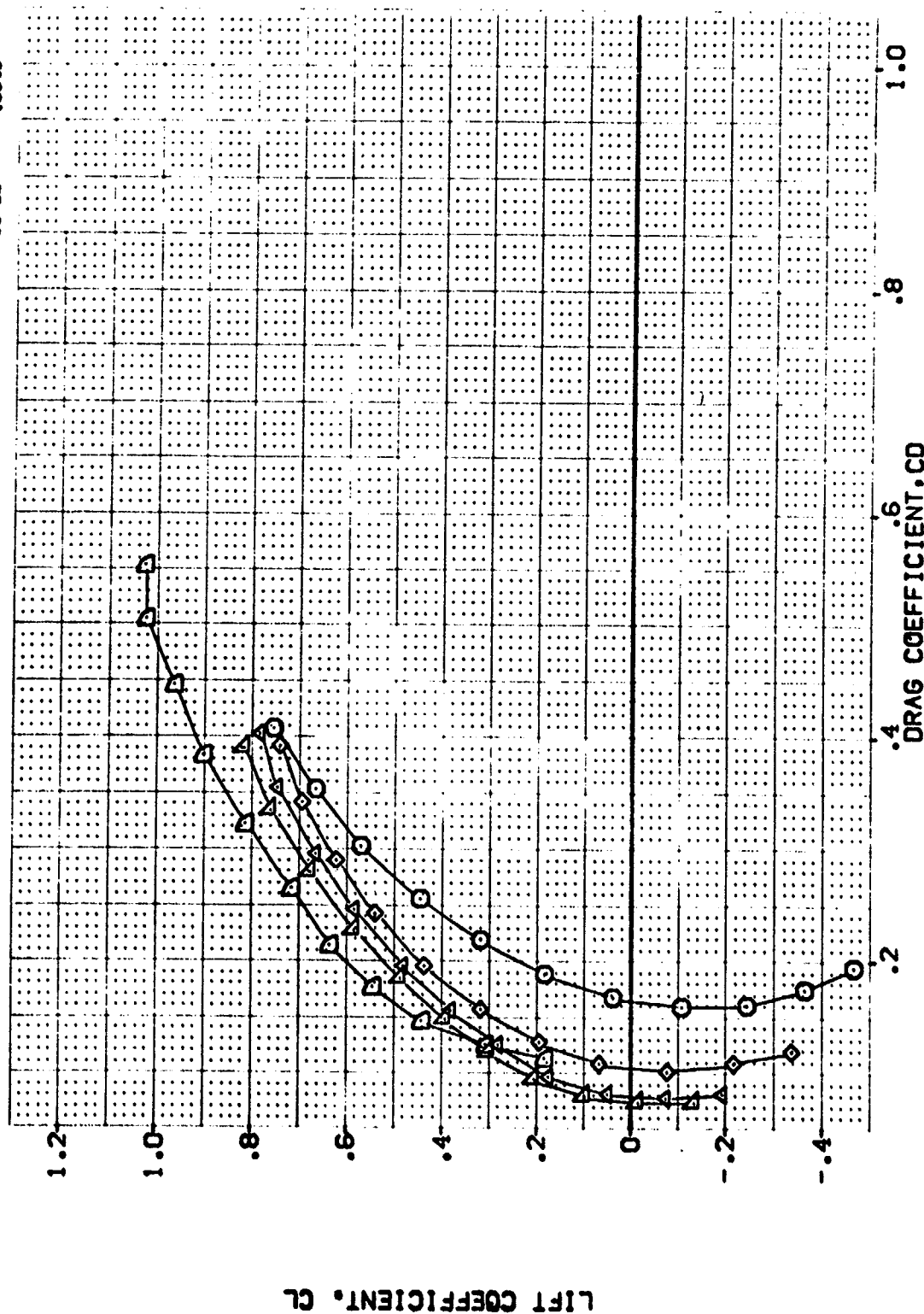
25.550
 25.550
 25.550
 25.550
 25.550
 25.550

AILRON

-.320
 -.240
 -.400
 -.630
 .000
 -1.680

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

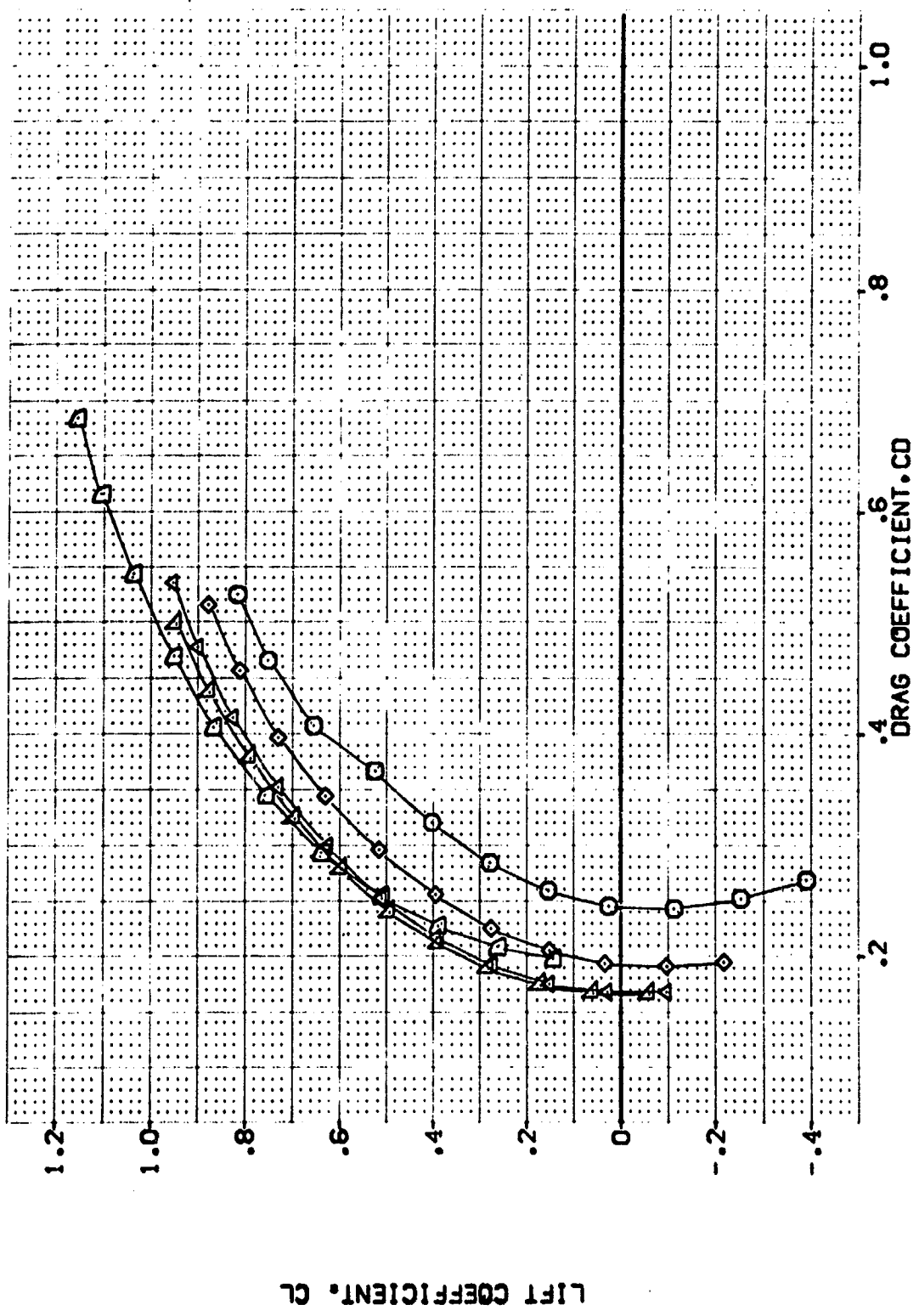


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)MACH = .89



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILERON	REFERENCE INFORMATION
(E92001)	MSFC 581 (0A49) DRB 34-0 (BCFM) (VE)(VR)	-23.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(E92117)	DATA NOT AVAILABLE	-23.640	-11.700	25.550	-0.240	LREF 481.6480 IN.
(E92002)	MSFC 581 (0A49) DRB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
(E92003)	MSFC 581 (0A49) DRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP 1081.3900 IN.
(Z92004)	MSFC 581 (0A49) DRB 34-0 (BCFM) (VE)(VR)	.000	-11.700	25.550	-0.000	YMRP .0000 IN.
(E92005)	MSFC 581 (0A49) DRB 34-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZMRP .0040 IN.
						SCALE

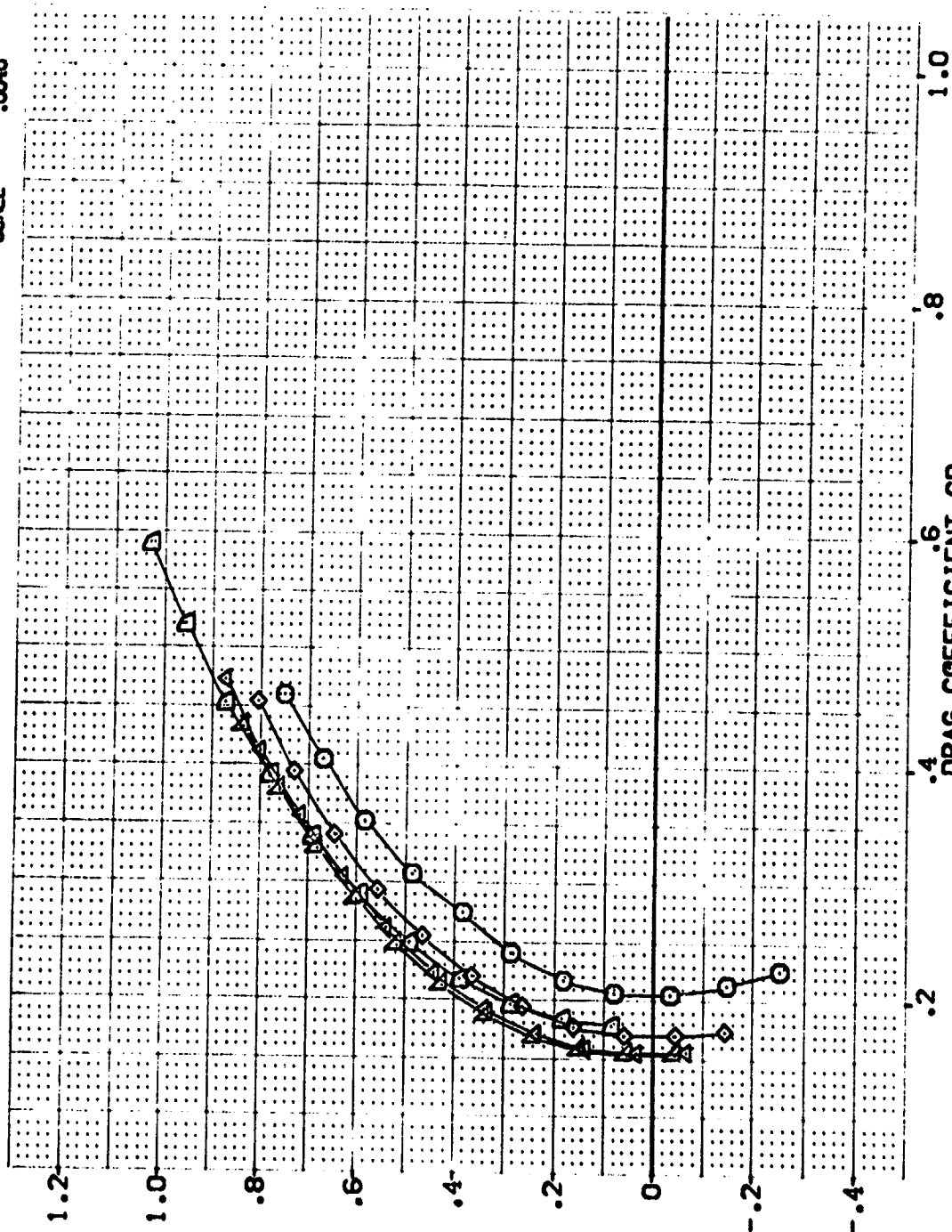


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (E2001) NSFC 501(0A49) DB 34-0 (BOTH) (VE)(VR)
 (E2117) DATA NOT AVAILABLE
 (E2702) NSFC 501(0A49) C 3 34-0 (BOTH) (VE)(VR)
 (E2703) NSFC 501(0A49) C 3 34-0 (BOTH) (VE)(VR)
 (E2704) NSFC 501(0A49) C 3 34-0 (BOTH) (VE)(VR)
 (E2705) NSFC 501(0A49) DB 34-0 (BOTH) (VE)(VR)

ELEVTR BOFLAP SPODBK AILRON REFERENCE INFORMATION
 -33.650 -11.700 25.550 -220 2741.8000 50. FT
 -23.840 -11.700 25.550 -240 481.6480 IN.
 -15.550 -11.700 25.550 -400 936.7000 IN.
 -4.510 -11.700 25.550 -630 1081.3900 IN.
 16.750 -11.700 25.550 -1.680 0.000 IN.
 SCALE 0.0040



LIFT COEFFICIENT, CL

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(O)MACH = 1.46

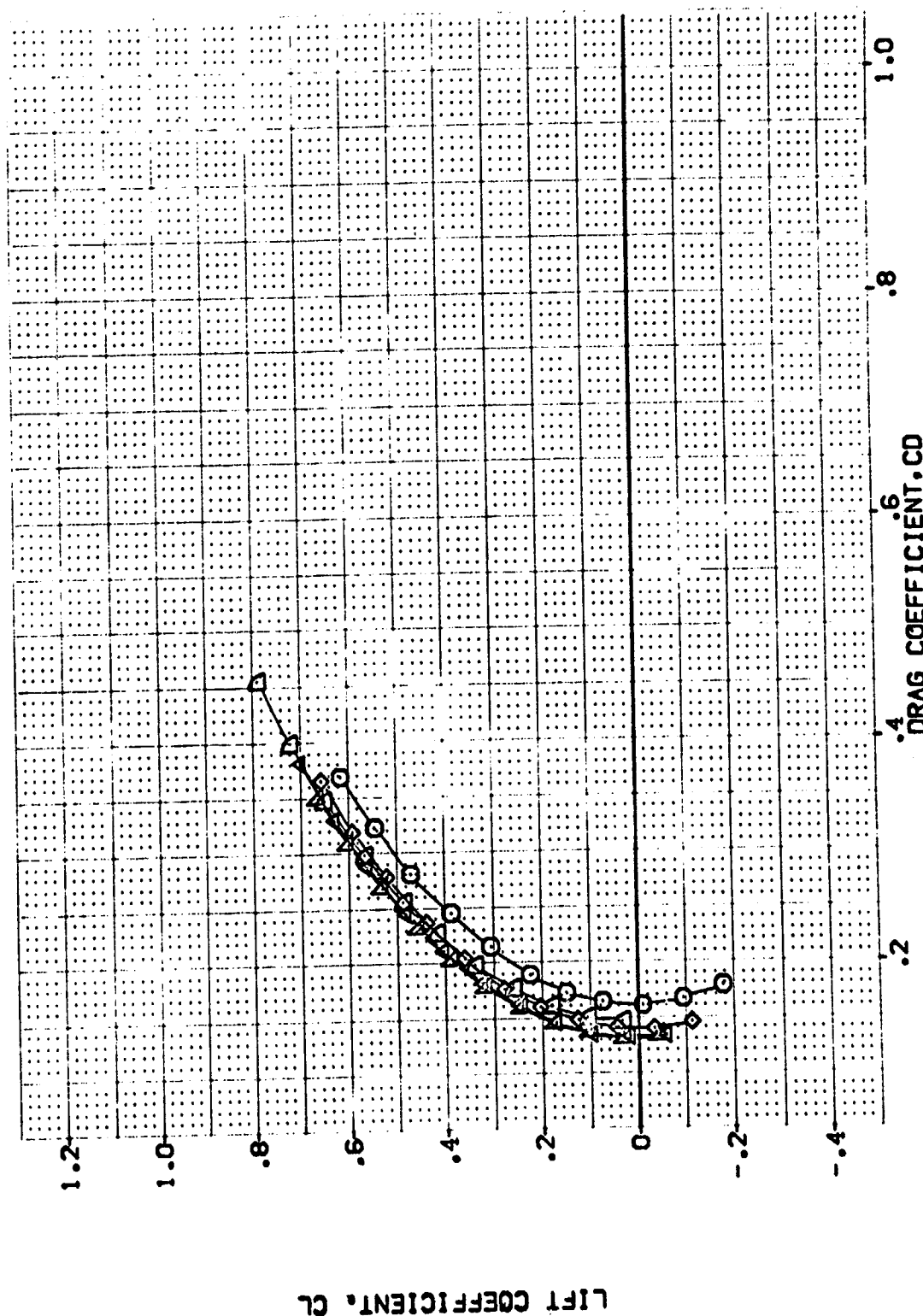


DATA SET SYMBOLS: [E92001], [E92117], [E92117], [E92117], [E92117], [E92117], [E92117], [E92117], [E92117], [E92117]

CONFIGURATION DESCRIPTION: MSFC 501(0A49) DB 34-0 (BCFH) (VE)(VR), DATA NOT AVAILABLE, MSFC 501(0A49) DB 34-0 (BCFH) (VE)(VR), MSFC 501(0A49) DB 34-0 (BCFH) (VE)(VR), MSFC 501(0A49) DB 34-0 (BCFH) (VE)(VR), MSFC 501(0A49) DB 34-0 (BCFH) (VE)(VR)

ELEVTR: -39.650, -23.840, -15.550, -4.310, .000, 16.790
 BOFLAP: -11.700, -11.700, -11.700, -11.700, -11.700, -11.700
 SPOBRK: 25.550, 25.550, 25.550, 25.550, 25.550, 25.550
 AILRON: -.370, -.240, -.400, -.630, -.1.680

REFERENCE INFORMATION: SREF: 2741.8000 SQ. FT, LREF: 481.5480 IN., BREF: 936.7000 IN., XMRP: 1081.3500 IN., YMRP: .0000 IN., ZMRP: .0000 IN., SCALE: .0040

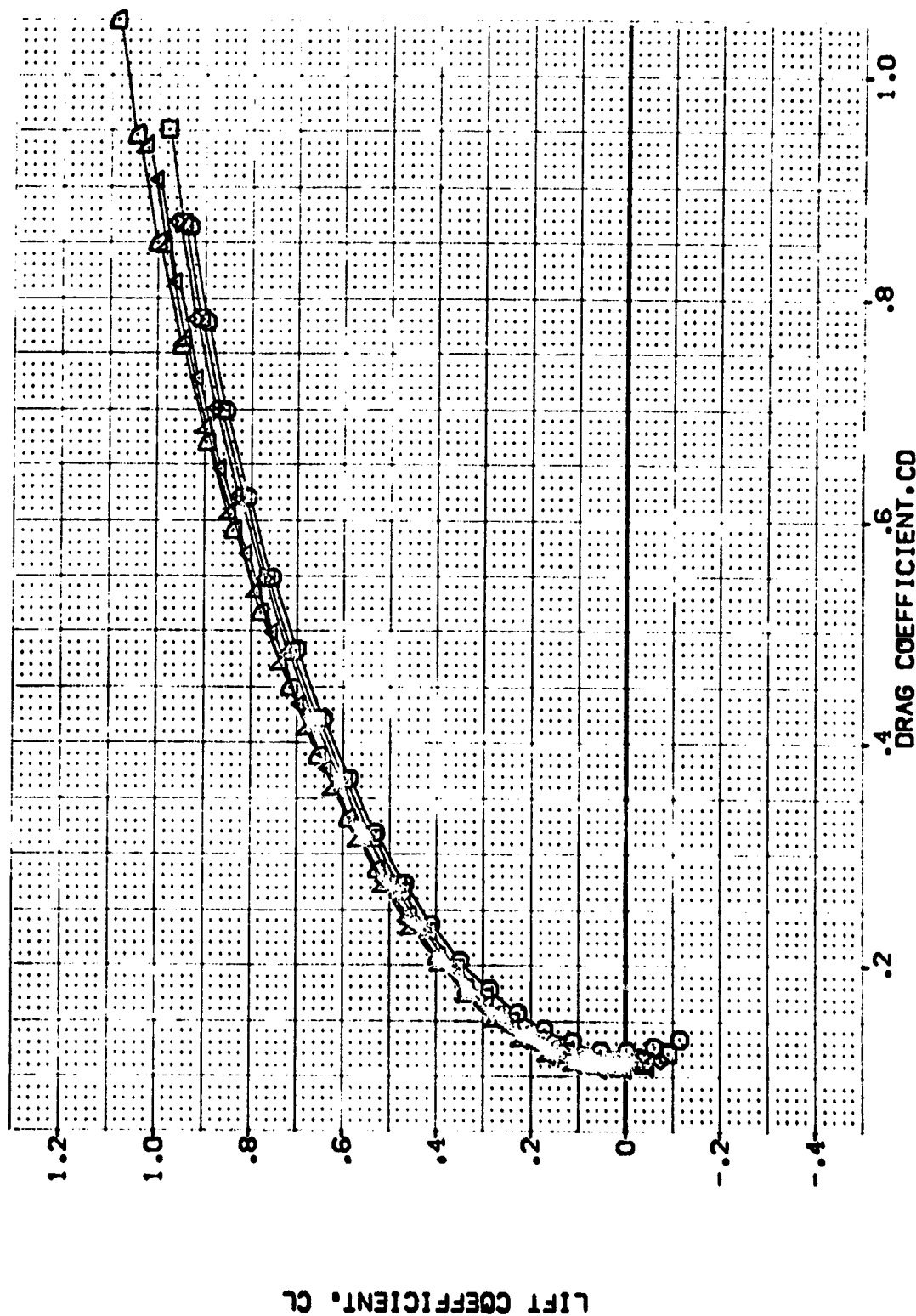


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)MACH = 1.95

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (E2001) MSFC 501(0A49) 078 34-0 (BOFM) (VE)(VR)
 (E2117) MSFC 501(0A49) 078 34-0 (BOFM) (VE)(VR)
 (E2202) MSFC 501(0A49) 078 34-0 (BOFM) (VE)(VR)
 (E2303) MSFC 501(0A49) 078 34-0 (BOFM) (VE)(VR)
 (E2404) MSFC 501(0A49) 078 34-0 (BOFM) (VE)(VR)
 (E2505) MSFC 501(0A49) 078 34-0 (BOFM) (VE)(VR)

ELEVTR BOFLAP SPDBRK AILRON REFERENCE INFORMATION
 -29.550 -11.700 25.550 -1.680 SREF 2741.8000 SQ. FT
 -29.840 -11.700 25.550 -1.680 LREF 481.6480 IN.
 -15.350 -11.700 25.550 -1.680 BREF 936.7000 IN.
 -4.310 -11.700 25.550 -1.680 XMRP 1081.3500 IN.
 16.750 -11.700 25.550 -1.680 YMRP 0.0000 IN.
 16.750 -11.700 25.550 -1.680 ZMRP 0.0000 IN.
 SCALE 0.0040

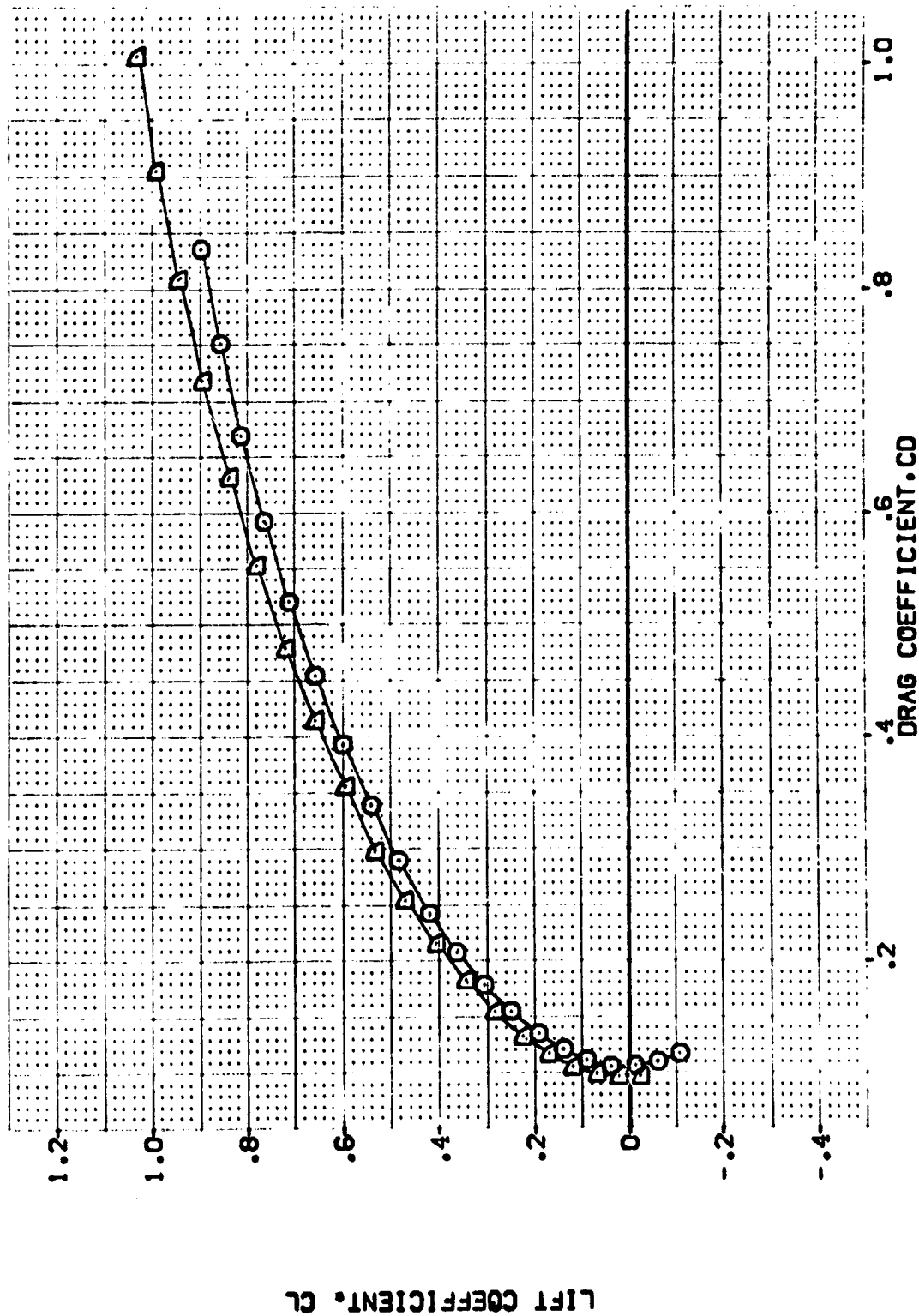


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(F)MACH = 2.99



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPD0BRK	AILTRON	REFERENCE INFORMATION
(E92001)	MSC 531(CA49) 073 34-0 (BDFM) (VE)(VR)	-23.650	-11.700	25.550	-1.300	SREF 2741.8000 SQ. FT
(E92117)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-1.240	LREF 481.6480 IN.
(E92112)	DATA NOT AVAILABLE	-15.550	-11.700	25.550	-1.400	BREF 536.7000 IN.
(E92113)	DATA NOT AVAILABLE	-4.310	-11.700	25.550	-1.630	XPRP 1081.3900 IN.
(E92114)	DATA NOT AVAILABLE	.000	-11.700	25.550	-1.600	YPRP .0000 IN.
(E92105)	MSC 531(CA49) 073 34-0 (BDFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZPRP .0000 IN.
						SCALE .0040



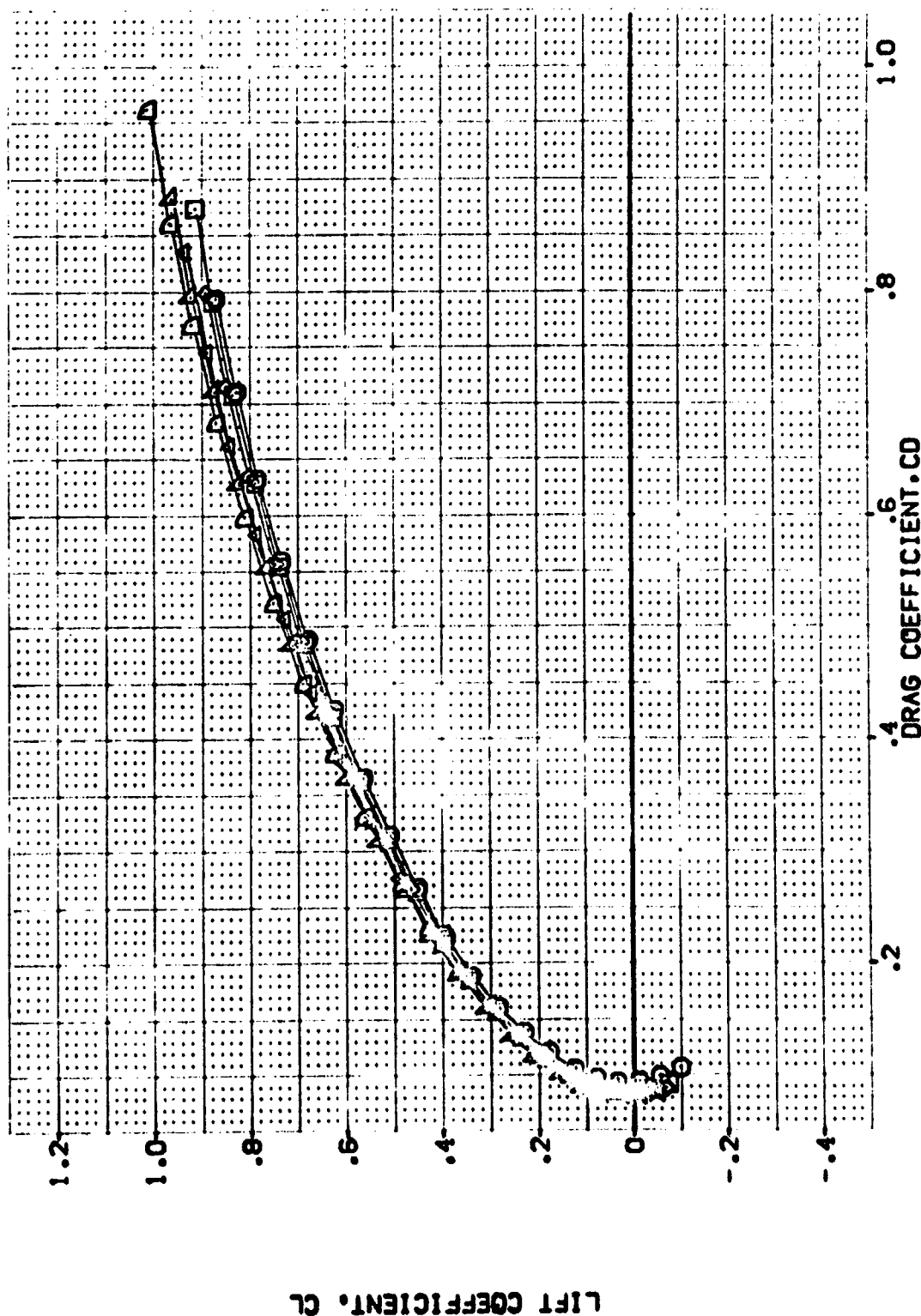
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(G)MACH = 4.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPOBRK	AILTRN	REFERENCE INFORMATION	SQ. FT
(E2001)	HSC S31(DA9) 000 34-0 (BDH) (VE)(VR)	-39.650	-11.700	25.550	-0.320	SREF	2741.8000
(E2117)	HSC S31(DA9) 000 34-0 (BDH) (VE)(VR)	-23.840	-11.700	25.550	-0.240	LREF	481.6460
(E2002)	HSC S31(DA9) 000 34-0 (BDH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF	936.7000
(E2003)	HSC S31(DA9) 000 34-0 (BDH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XREF	1081.3900
(E2004)	HSC S31(DA9) 000 34-0 (BDH) (VE)(VR)	0.000	-11.700	25.550	-1.000	YREF	0.0000
(E2005)	HSC S31(DA9) 000 34-0 (BDH) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZREF	0.0000

SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(H)MACH = 4.96

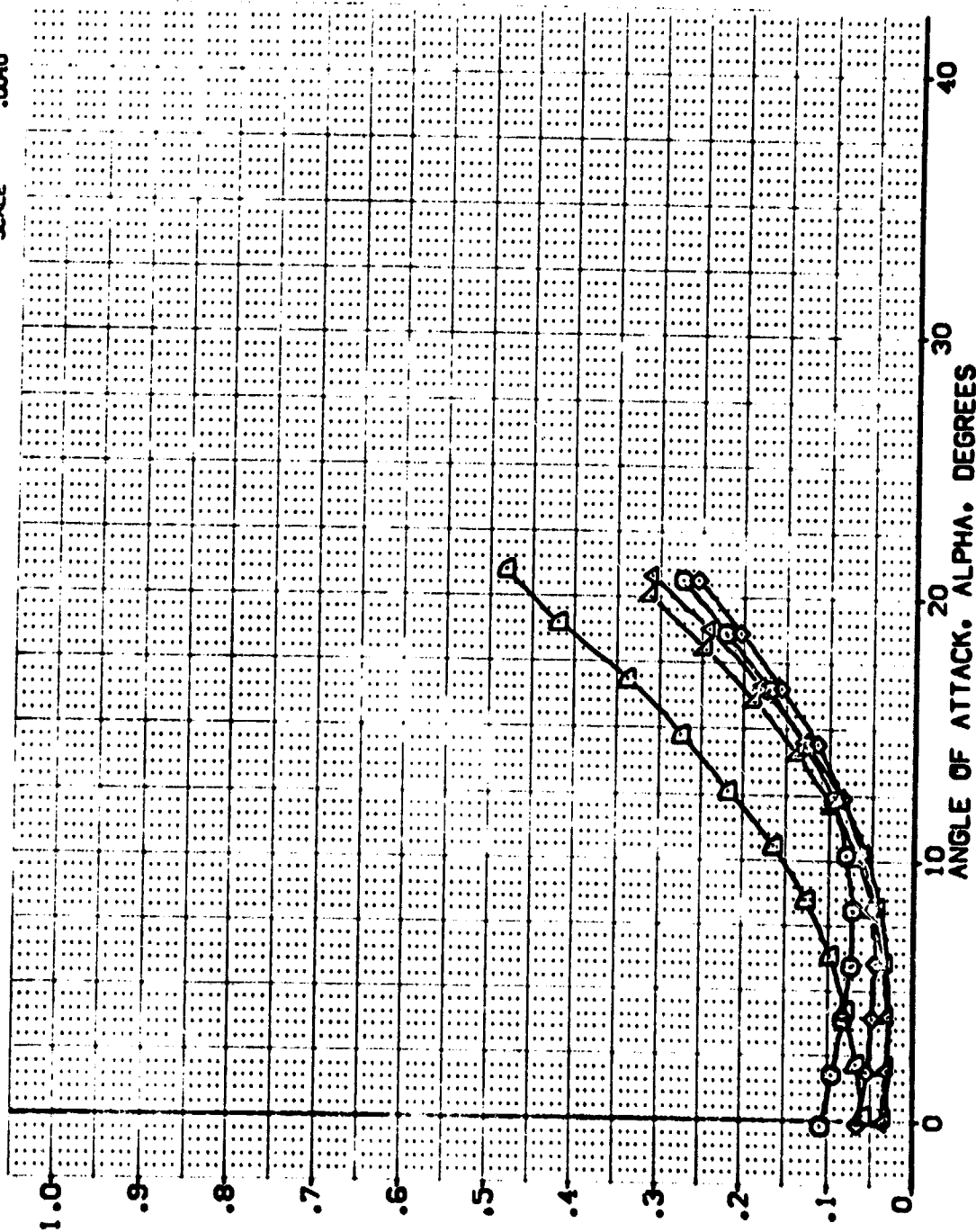


CONFIGURATION DESCRIPTION

TEST	501 (0A49)	000	34-0	(BDPH)	(VE) (VR)
DATA NOT AVAILABLE					
TEST	501 (0A49)	023	34-0	(BDPH) <td>(VE) (VR)</td>	(VE) (VR)
TEST	501 (0A49)	029	34-0	(BDPH) <td>(VE) (VR)</td>	(VE) (VR)
TEST	501 (0A49)	038	34-0	(BDPH) <td>(VE) (VR)</td>	(VE) (VR)
TEST	501 (0A49)	039	34-0	(BDPH) <td>(VE) (VR)</td>	(VE) (VR)

ELEVTR	BOFLAP	SPOBRK	AIRLON	REFERENCE INFORMATION				FT
20.850	== 700	25.550	-320	GREF	2741	8000	SG	
20.840	== 700	25.540	-240	LREF	481	6480	IN	
15.560	== 700	22.250	-200	BREF	936	7000	IN	
15.550	== 700	22.240	-600	XREF	1081	3500	IN	
16.000	== 700	22.230		YREF		0000	IN	
16.750	== 700	22.220	-1.680	ZREF		0000	IN	
				SCALE		0010		

REFERENCE INFORMATION	
SREF	2741.8000 SQ.
LREF	481.6480 IN.
BREF	936.7000 IN.
XPRP	1081.3900 IN.
YPRP	.0000 IN.
ZPRP	.0000 IN.
SCALE	.0010



INTERPOLATED ZERO ELEVEN CHARACTERISTICS

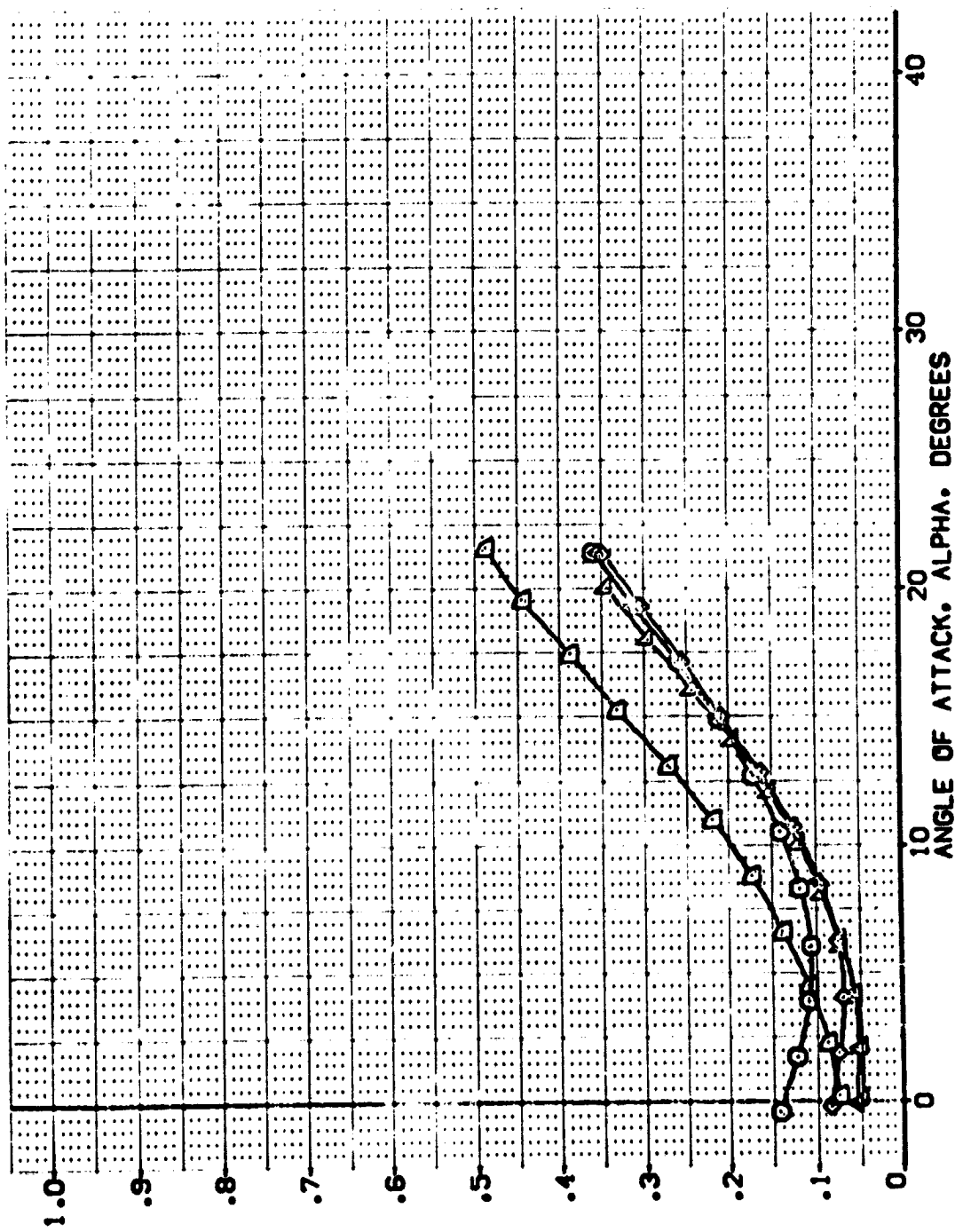
$$(A)_{MACH} = .60$$

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(P32001)	HPFC 501 (DA45) 000 34-0 (BDTH) (VE)(VR)
(P32117)	DATA NOT AVAILABLE
(P32002)	HPFC 501 (DA45) 000 34-0 (BDTH) (VE)(VR)
(P32003)	HPFC 501 (DA45) 000 34-0 (BDTH) (VE)(VR)
(P32004)	HPFC 501 (DA45) 000 34-0 (BDTH) (VE)(VR)
(P32005)	HPFC 501 (DA45) 000 34-0 (BDTH) (VE)(VR)

ELEVIR BDCLAP SPDBRK AILRON REFERENCE INFORMATION SQ. FT

-23.650	-11.700	25.550	-0.200	SREF	2741.0000	50. IN.
-23.000	-11.700	25.550	-0.240	LREF	481.6460	IN.
-15.550	-11.700	25.550	-0.400	BREF	536.7000	IN.
-4.310	-11.700	25.550	-0.630	YREF	1081.0000	IN.
0.000	-11.700	25.550	-1.000	ZREF	0.0000	IN.
16.750	-11.700	25.550	-1.000	SCALE	0.0040	



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)MACH = .89



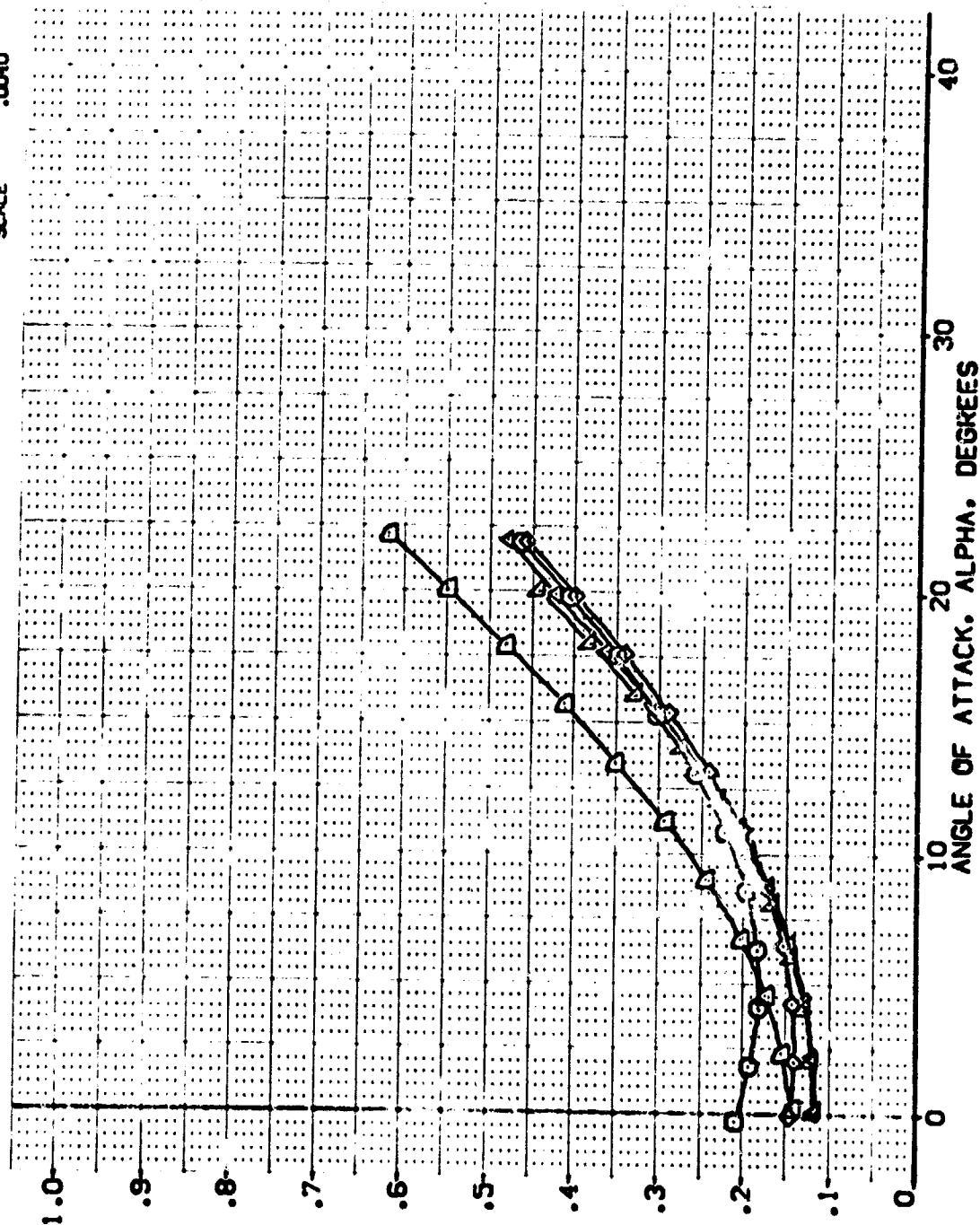
DATA SET SYMBOL
 (F50001)
 (F50117)
 (F50132)
 (F50133)
 (F50134)
 (F50135)
 (F50136)

CONFIGURATION DESCRIPTION
 MSC S31(DA9) DB 34-0 (BDFM) (VE)(VR)
 DATA NOT AVAILABLE
 MSC S31(DA9) C 3 34-0 (BDFM) (VE)(VR)
 MSC S31(DA9) C 3 34-0 (BDFM) (VE)(VR)
 MSC S31(DA9) DB 34-0 (BDFM) (VE)(VR)
 MSC S31(DA9) DB 34-0 (BDFM) (VE)(VR)

ELEVTR BDFLAP SPOBRK ALLNON
 -23.650 -11.700 25.550 -1.320
 -23.640 -11.700 25.550 -1.240
 -15.550 -11.700 25.550 -1.400
 -4.310 -11.700 25.550 -1.630
 16.750 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6180 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

FOREBODY DRAG COEFFICIENT, CDF



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)MACH = 1.20



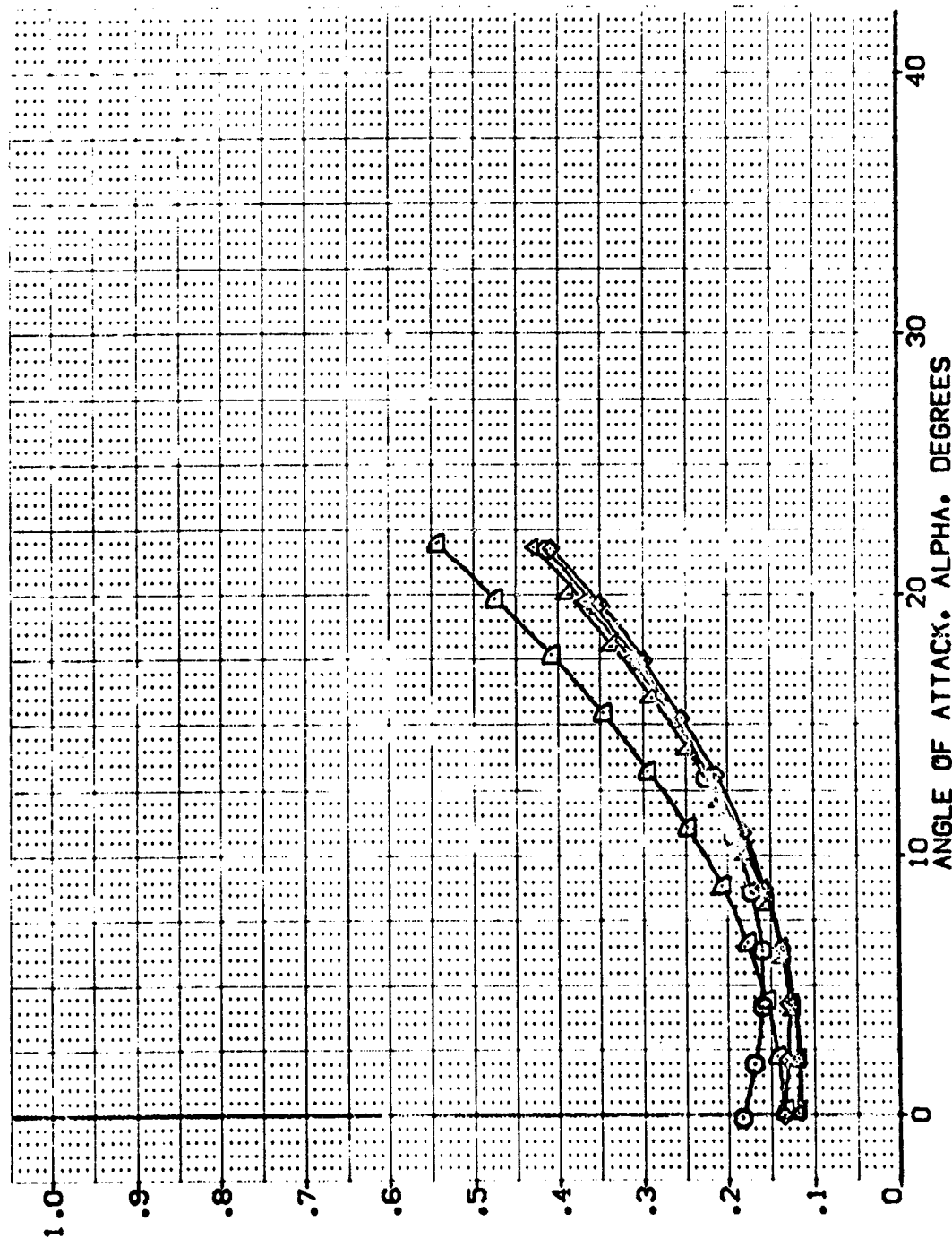
DATA SET SYMBOL CONFIGURATION DESCRIPTION

[P32001]	NSFC 501 (DA49) DRB 34-0 (BDTH)	(VE) (VR)
[P32117]	DATA NOT AVAILABLE	
[P32002]	NSFC 501 (DA49) DRB 34-0 (BDTH)	(VE) (VR)
[P32003]	NSFC 501 (DA49) DRB 34-0 (BDTH)	(VE) (VR)
[P32004]	NSFC 501 (DA49) DRB 34-0 (BDTH)	(VE) (VR)
[P32005]	NSFC 501 (DA49) DRB 34-0 (BDTH)	(VE) (VR)

ELEVTR BOFLAP SPDSBK AIRDRN REFERENCE INFORMATION SQ. FT

-39.650	-11.700	25.950	-0.320	SREF	2741.8000	IN.
-23.810	-11.700	25.950	-0.240	LREF	481.6480	IN.
-15.550	-11.700	25.950	-0.400	BREF	936.7000	IN.
-4.310	-11.700	25.950	-0.630	XMRP	1081.3900	IN.
.000	-11.700	25.950		YMRP	.0000	IN.
16.790	-11.700	25.950	-1.680	ZMRP	.0000	IN.
				SCALE	.0040	

FOREBODY DRAG COEFFICIENT, CDF



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(O)MACH = 1.46

DATA SET SYMBOL: [F92001] [F92117] [F92702] [F92703] [F92704] [F92705]

CONFIGURATION DESCRIPTION: MSFC 581(0A49) CRB 34-0 (BOTH) (VE)(VR) DATA NOT AVAILABLE MSFC 581(0A49) CRB 34-0 (BOTH) (VE)(VR) MSFC 581(0A49) CRB 34-0 (BOTH) (VE)(VR) MSFC 581(0A49) CRB 34-0 (BOTH) (VE)(VR) MSFC 581(0A49) CRB 34-0 (BOTH) (VE)(VR)

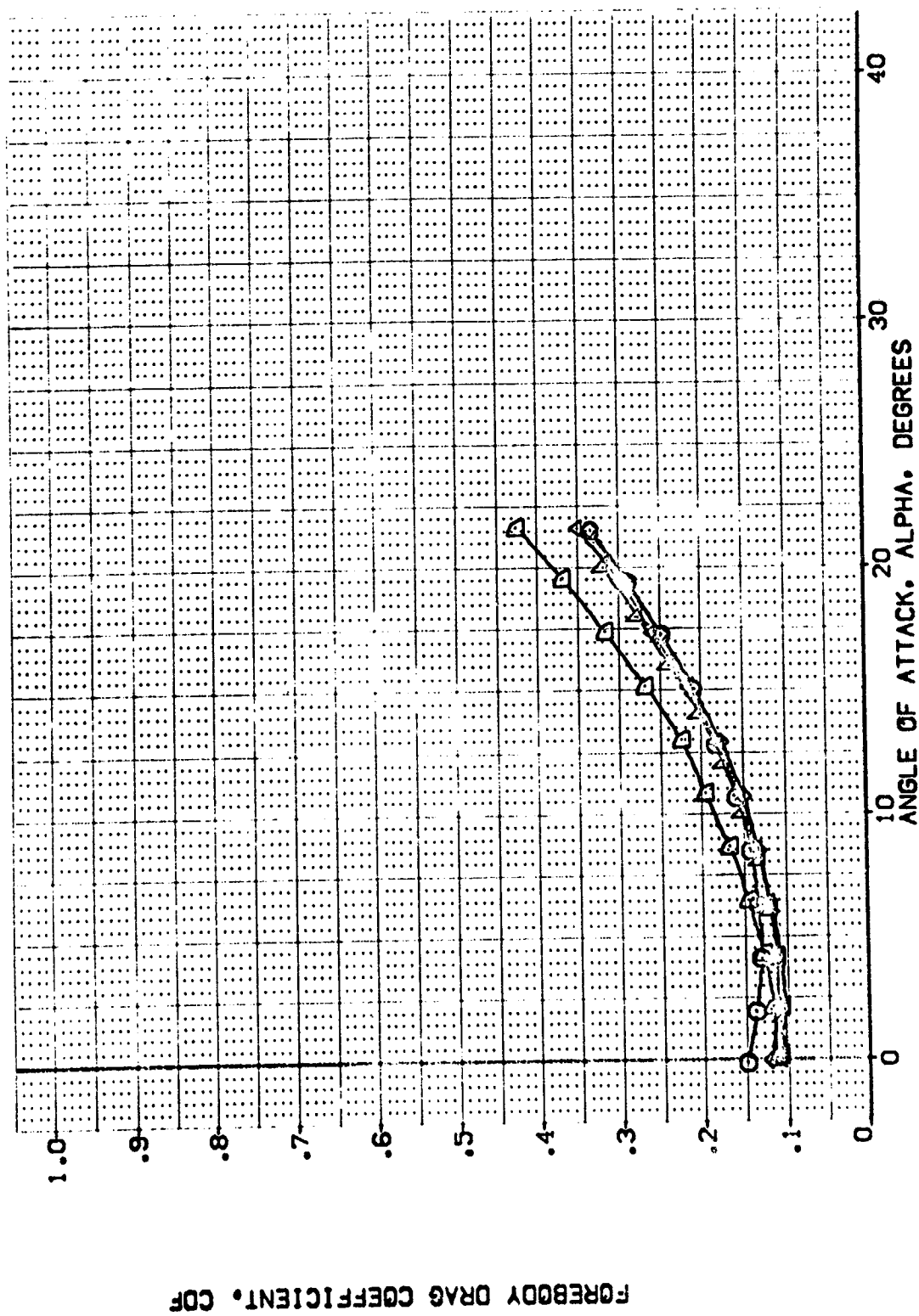
ELEVTR: -33.650 -23.940 -15.550 -4.310 16.790

BOFLAP: -11.700 -11.700 -11.700 -11.700 -11.700

SPOBRK: 25.550 25.550 25.550 25.550 25.550

AIRLON: -.320 -.240 -.400 -.630 -1.680

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 936.7000 IN. XMRP 1081.3500 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040



FOREBODY DRAG COEFFICIENT, CDF

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)MACH = 1.95

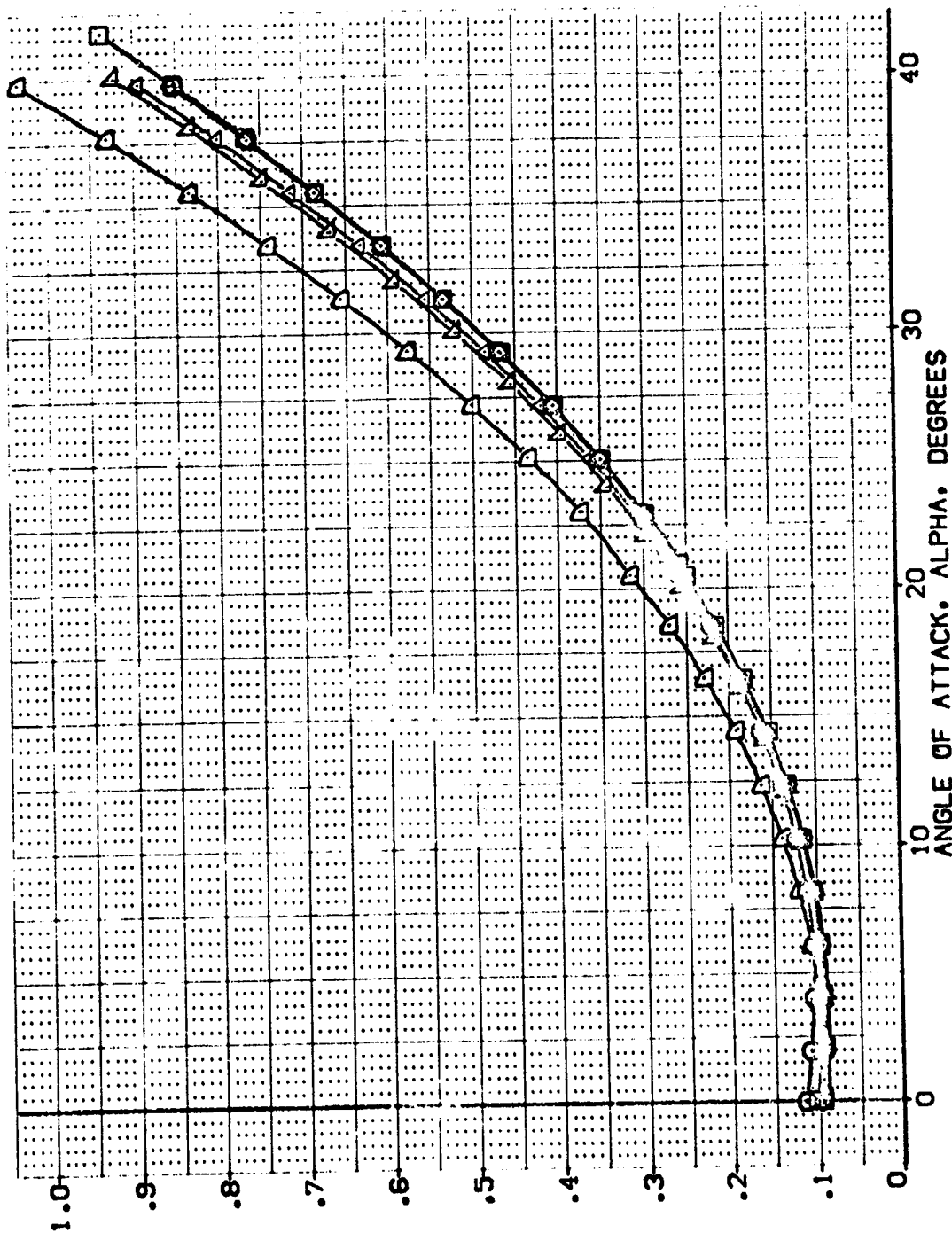
FOREBODY DRAG COEFFICIENT, CDF

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[F92001]	MSFC S01(DA49) 000 34-0 (BOTH) (VE)(VR)
[F92017]	MSFC S01(DA49) 000 34-0 (BOTH) (VE)(VR)
[F92002]	MSFC S01(DA49) 000 34-0 (BOTH) (VE)(VR)
[F92003]	MSFC S01(DA49) 000 34-0 (BOTH) (VE)(VR)
[F92004]	MSFC S01(DA49) 000 34-0 (BOTH) (VE)(VR)
[F92005]	MSFC S01(DA49) 000 34-0 (BOTH) (VE)(VR)

ELEVTR EOLFLAP SPOBRK AILTRON REFERENCE INFORMATION SQ. FT

-23.650	-11.700	25.550	-220	SREF	2741.8000	IN.
-23.840	-11.700	25.550	-240	LREF	481.6480	IN.
-15.550	-11.700	25.550	-400	BREF	536.7000	IN.
-4.310	-11.700	25.550	-630	XMRP	1081.3500	IN.
.000	-11.700	25.550	-1.680	YMRP	.0000	IN.
16.750	-11.700	25.550		ZMRP	.0000	IN.
				SCALE	.0040	



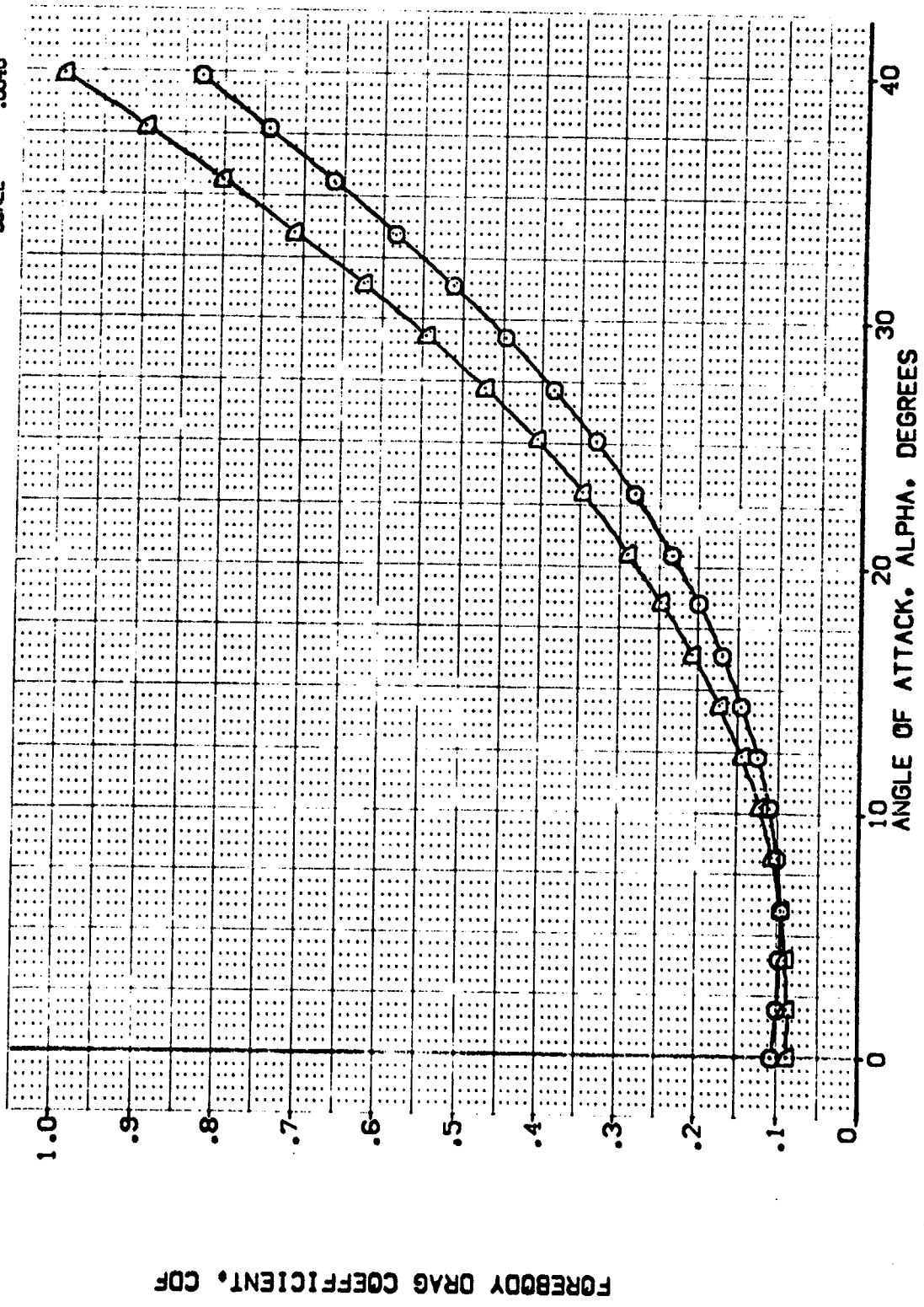
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(F)MACH = 2.99



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [F92001] MSFC 581(0A49) ORB 34-0 (BOFH) (VE)(VR)
 [F92002] DATA NOT AVAILABLE
 [F92003] DATA NOT AVAILABLE
 [F92004] DATA NOT AVAILABLE
 [F92005] MSFC 581(0A49) ORB 34-0 (BOFH) (VE)(VR)

ELEVTR BOFLAP SPDRBK AILRON REFERENCE INFORMATION
 -33.650 -11.700 25.550 -.320 SREF 2741.6000 SQ. FT
 -23.840 -11.700 25.550 -.240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -.400 BREF 936.7000 IN.
 -4.310 -11.700 25.550 -.630 XMRP 1081.3000 IN.
 .000 -11.700 25.550 .0000 YMRP .0000 IN.
 16.790 -11.700 25.550 .0040 SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS

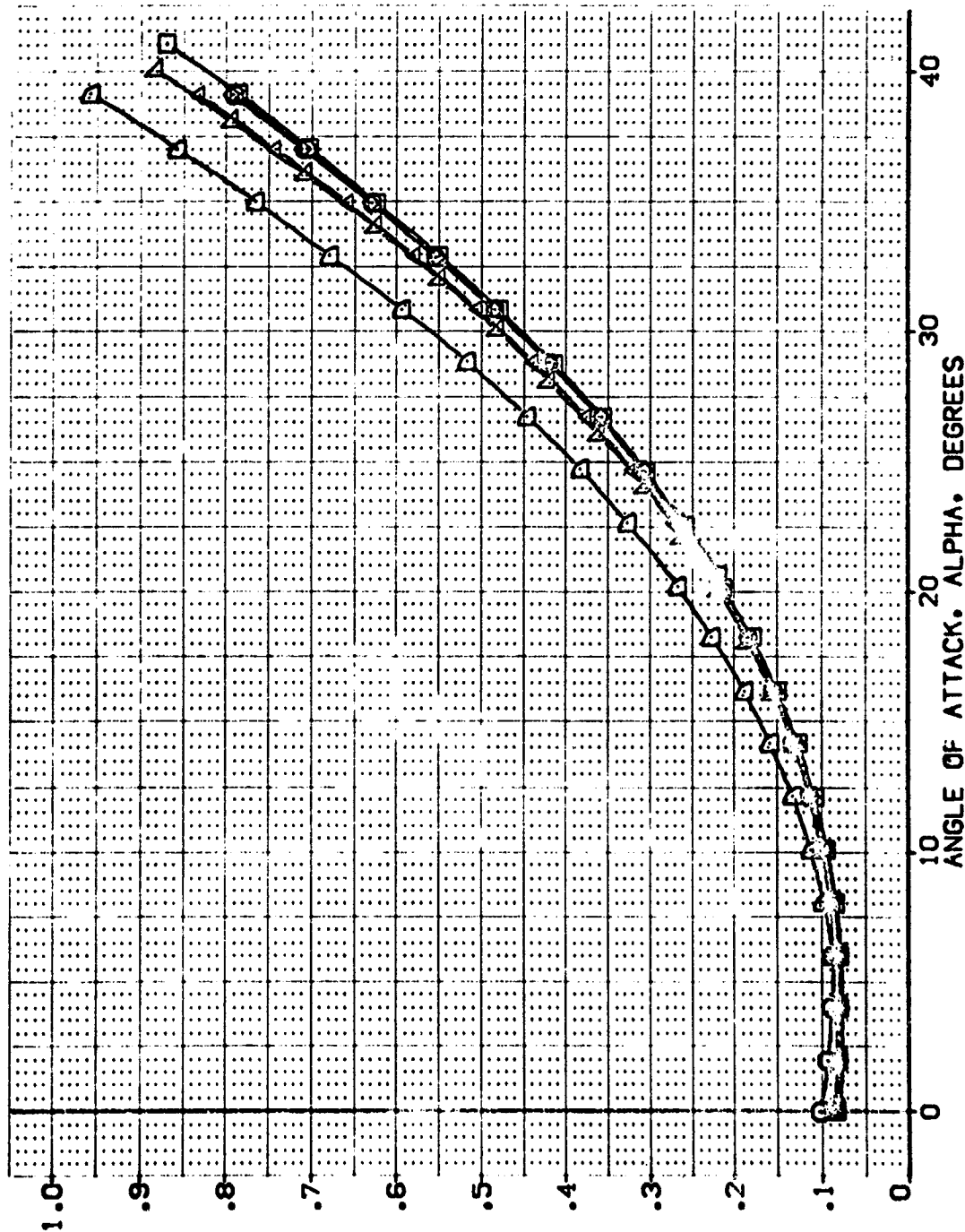
(G)MACH = 4.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(F92001) MSFC 581(0A49) 078 34-0 (BDFH) (VE)(VR)
 (F92117) MSFC 581(0A49) 078 34-0 (BDFH) (VE)(VR)
 (F92002) MSFC 581(0A49) 078 34-0 (BDFH) (VE)(VR)
 (F92103) MSFC 581(0A49) 078 34-0 (BDFH) (VE)(VR)
 (Z92104) MSFC 581(0A49) 078 34-0 (BDFH) (VE)(VR)
 (F92005) MSFC 581(0A49) 078 34-0 (BDFH) (VE)(VR)

ELEVTR 80FLAP SPOBRK AILRON
 -33.650 -11.700 25.550 -1.320
 -23.840 -11.700 25.550 -1.240
 -15.550 -11.700 25.550 -1.400
 -4.310 -11.700 25.550 -1.630
 16.750 -11.700 25.550 -1.680

REFERENCE INFORMATION FT
 SREF 2741.8000 SQ. IN.
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 YARP 1081.2800 IN.
 ZARP .0000 IN.
 SCALE .0040



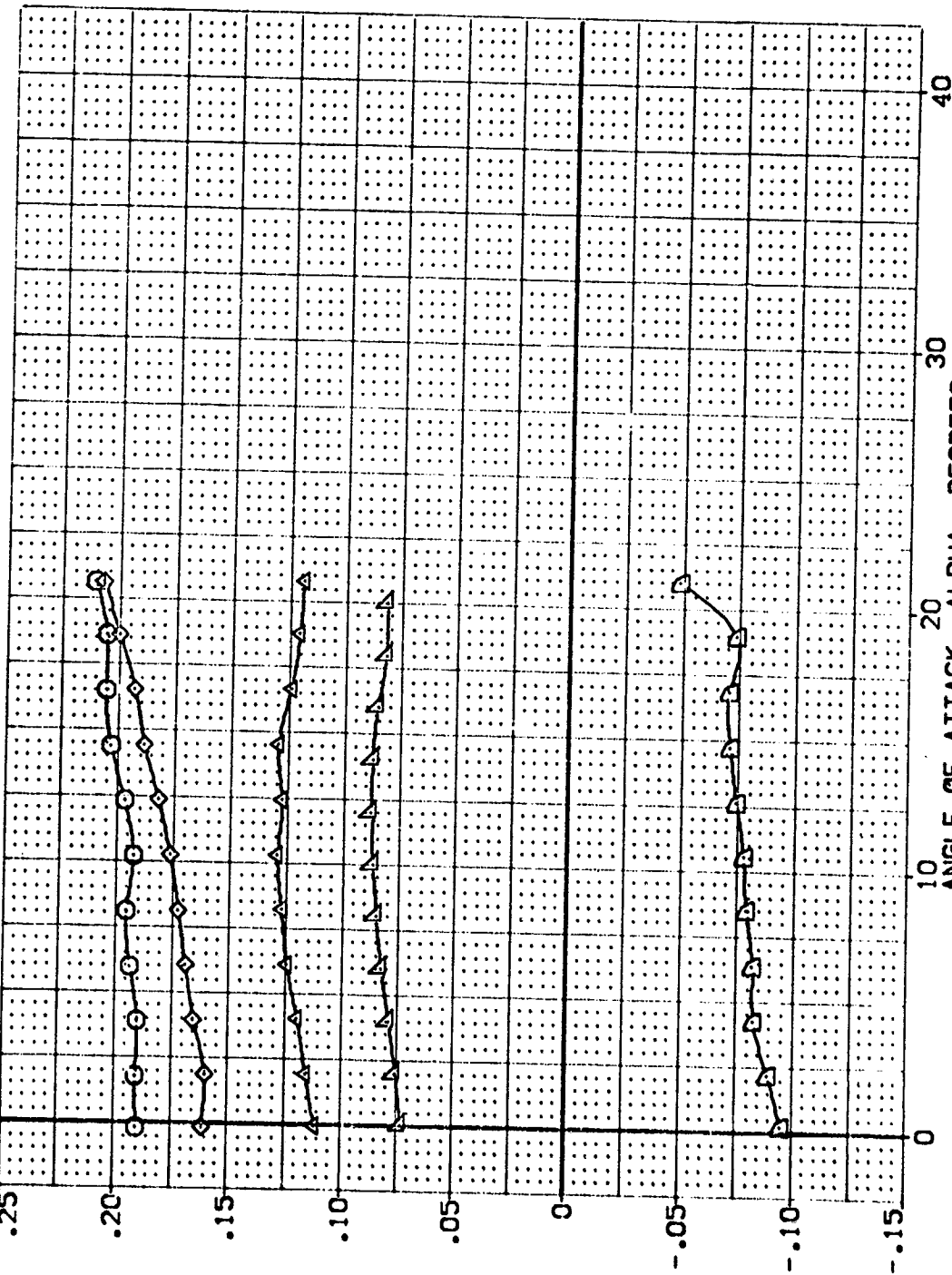
FOREBODY DRAG COEFFICIENT, CDF

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(H)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(G97001)	MSFC S81(OA49) CRB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-1.320	SREF 2741.8000 50. FT
(G97002)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-1.240	LREF 481.6480 IN.
(G97003)	MSFC S81(OA49) CRB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-1.400	BREF 936.7000 IN.
(G97004)	MSFC S81(OA49) CRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-1.630	XMRP 11.07 IN.
(G97005)	MSFC S81(OA49) CRB 34-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	YMRP .0000 IN.
						SCALE .0030



PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFT

INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(A)MACH = .60

DATA SET SYMBOL: [G92001] [G92117] [G92202] [G92203] [G92204] [G92005]

CONFIGURATION DESCRIPTION: MSFC 581(CA49) CR3 34-0 (BCFM) (VE)(VR) DATA NOT AVAILABLE MSFC 501(CA49) CR3 34-0 (BCFM) (VE)(VR) MSFC 581(CA49) CR3 34-0 (BCFM) (VE)(VR) MSFC 581(CA49) CR3 34-0 (BCFM) (VE)(VR)

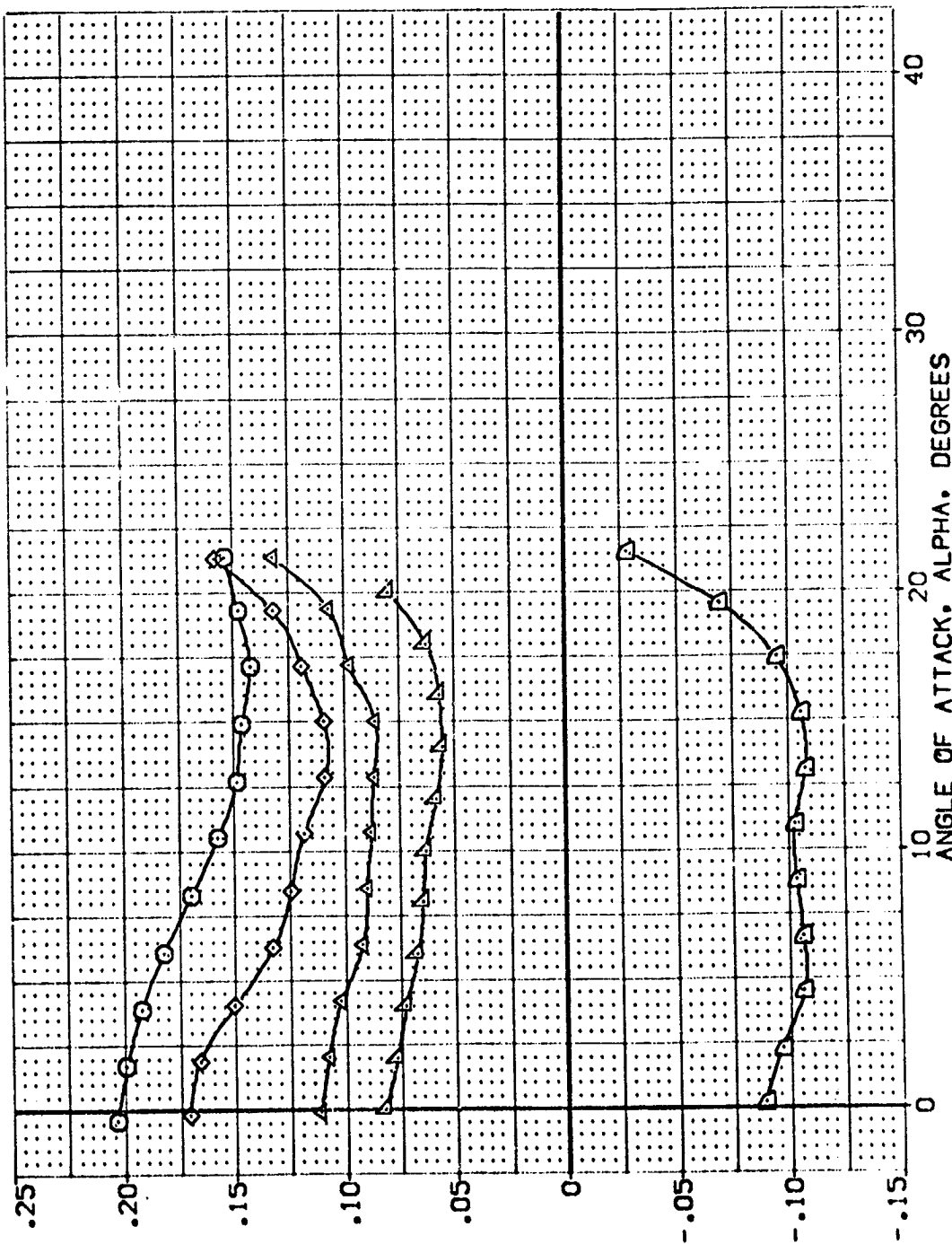
ELEVTR: -33.650 -23.810 -15.550 -4.310 .000 16.750

BOFLAP: -11.700 -11.700 -11.700 -11.700 -11.700 -11.700

SPOBRK: 25.550 25.550 25.550 25.550 25.550 25.550

AILERON: -.320 -.240 -.400 -.630 -1.680

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 938.7000 IN. YMRP 1107.1550 IN. ZMRP .0000 IN. SCALE .0040



PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFT

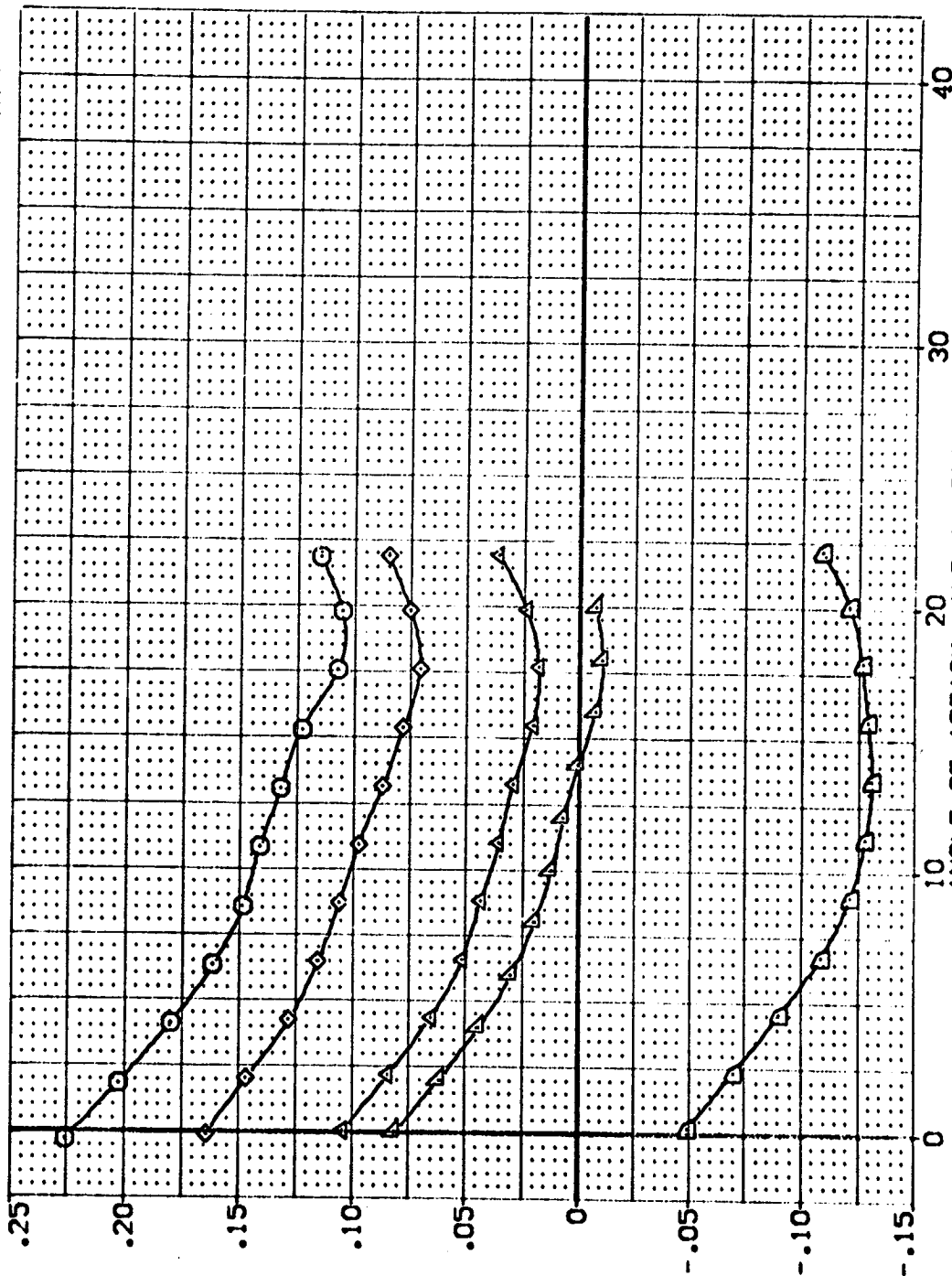
INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(B)MACH = .89



DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPO3RK	AILRON	REFERENCE INFORMATION
(G92001)	MSFC 581(DA49) CRB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(G92117)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-0.240	LREF 481.6480 IN.
(G92002)	MSFC 531(DA49) CRB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
(G92003)	MSFC 581(DA49) CRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP 1107.0000 IN.
(Z92004)	MSFC 581(DA49) CRB 34-0 (BCFM) (VE)(VR)	.000	-11.700	25.550	-0.000	YMRP 0000 IN.
(G92005)	MSFC 581(DA49) CRB 34-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZMRP 0000 IN.
						SCALE 0010



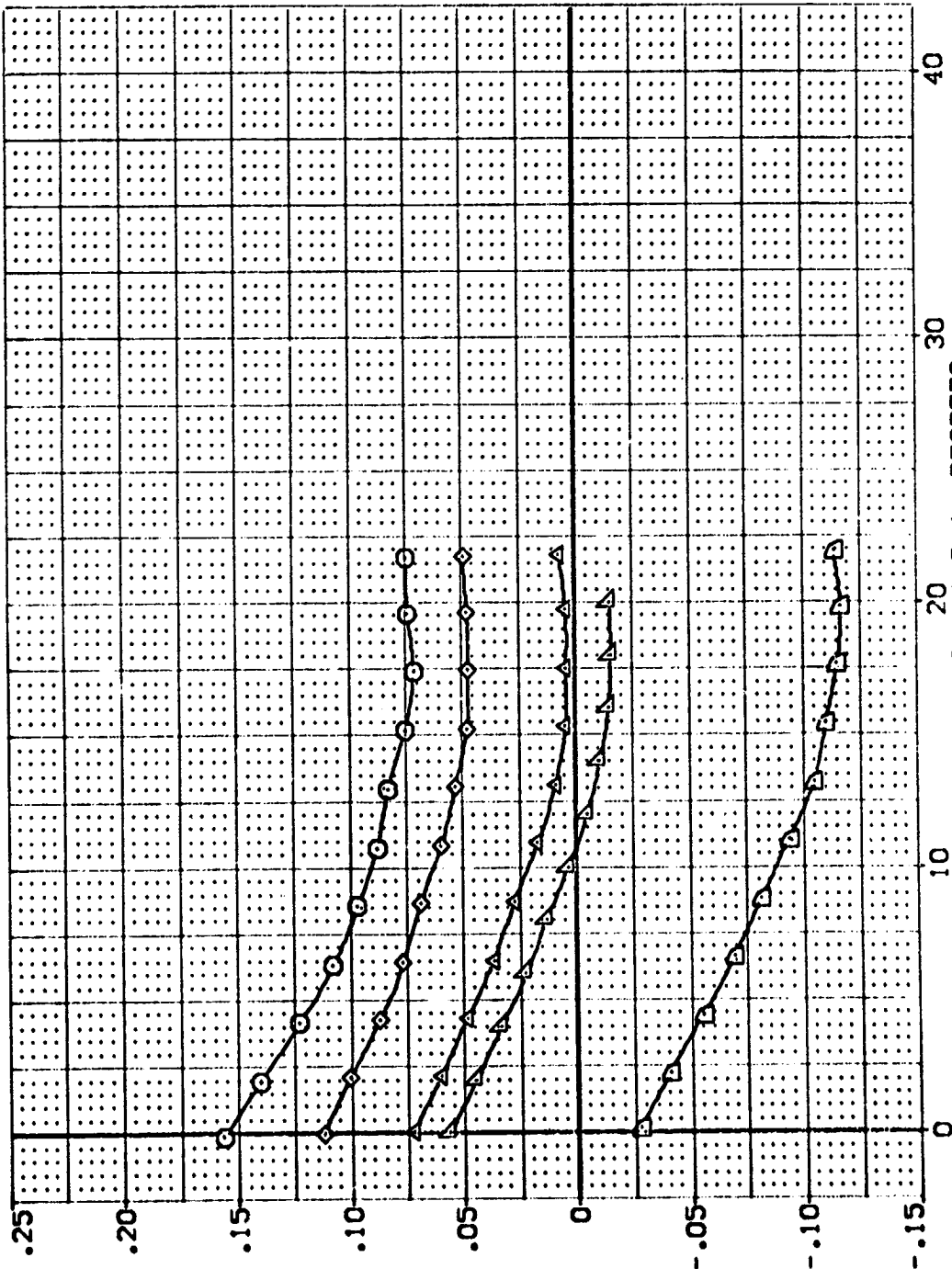
PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFT

INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(C)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 MSFC 591 (DA49) C23 34-0 (BCFM) (VE)(VR)
 DATA NOT AVAILABLE
 MSFC 591 (CA49) C23 34-0 (BCFM) (VE)(VR)
 MSFC 591 (DA49) C23 34-0 (BCFM) (VE)(VR)
 MSFC 591 (CA49) C23 34-0 (BCFM) (VE)(VR)
 MSFC 591 (DA49) C23 34-0 (BCFM) (VE)(VR)
 MSFC 591 (CA49) C23 34-0 (BCFM) (VE)(VR)

ELEVTR BOFLAP SPDBRK AILRON REFERENCE INFORMATION SQ. FT
 -23.650 -11.700 25.550 -270 2741.8000 IN.
 -23.840 -11.700 25.550 -240 481.6480 IN.
 -15.550 -11.700 25.550 -400 936.7000 IN.
 -4.310 -11.700 25.550 -630 1107.1800 IN.
 .000 -11.700 25.550 .000 .0000 IN.
 16.790 -11.700 25.550 -1.680 .0040 IN.
 SCALE



PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFT

INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(D)MACH = 1.46



DATA SET SYMBOL CONFIGURATION DESCRIPTION

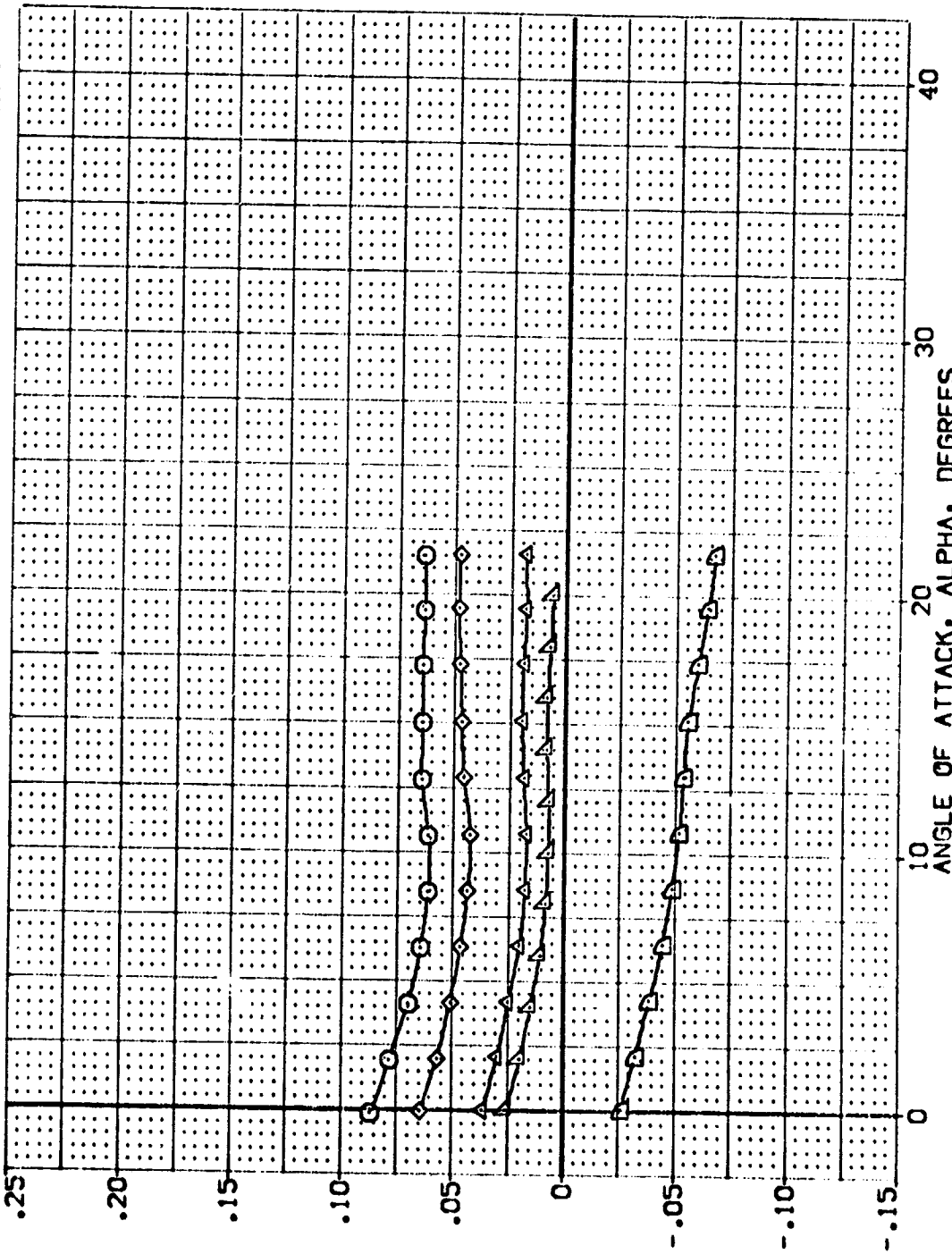
MSFC 581(DA49)	CRB 34-0 (BCFM)	(VE)(VR)
[592001]	DATA NOT AVAILABLE	(VE)(VR)
[592002]	MSFC 581(DA49)	CRB 34-0 (BCFM)
[592003]	MSFC 581(DA49)	CRB 34-0 (BCFM)
[592004]	MSFC 581(DA49)	CRB 34-0 (BCFM)
[592005]	MSFC 581(DA49)	CRB 34-0 (BCFM)

REFERENCE INFORMATION

SREF	LREF	BREF	XMRP	YMRP	ZMRP	SCALE
2741.8000	481.6480	936.7000	1107.1000	.0000	.0000	.00:3

ELEVTR BOFLAP SPOBRK ALLRON

ELEVTR	BOFLAP	SPOBRK	ALLRON
-33.650	-11.700	25.550	-1.320
-23.840	-11.700	25.550	-1.240
-15.550	-11.700	25.550	-1.400
-4.310	-11.700	25.550	-1.630
.000	-11.700	25.550	-1.680



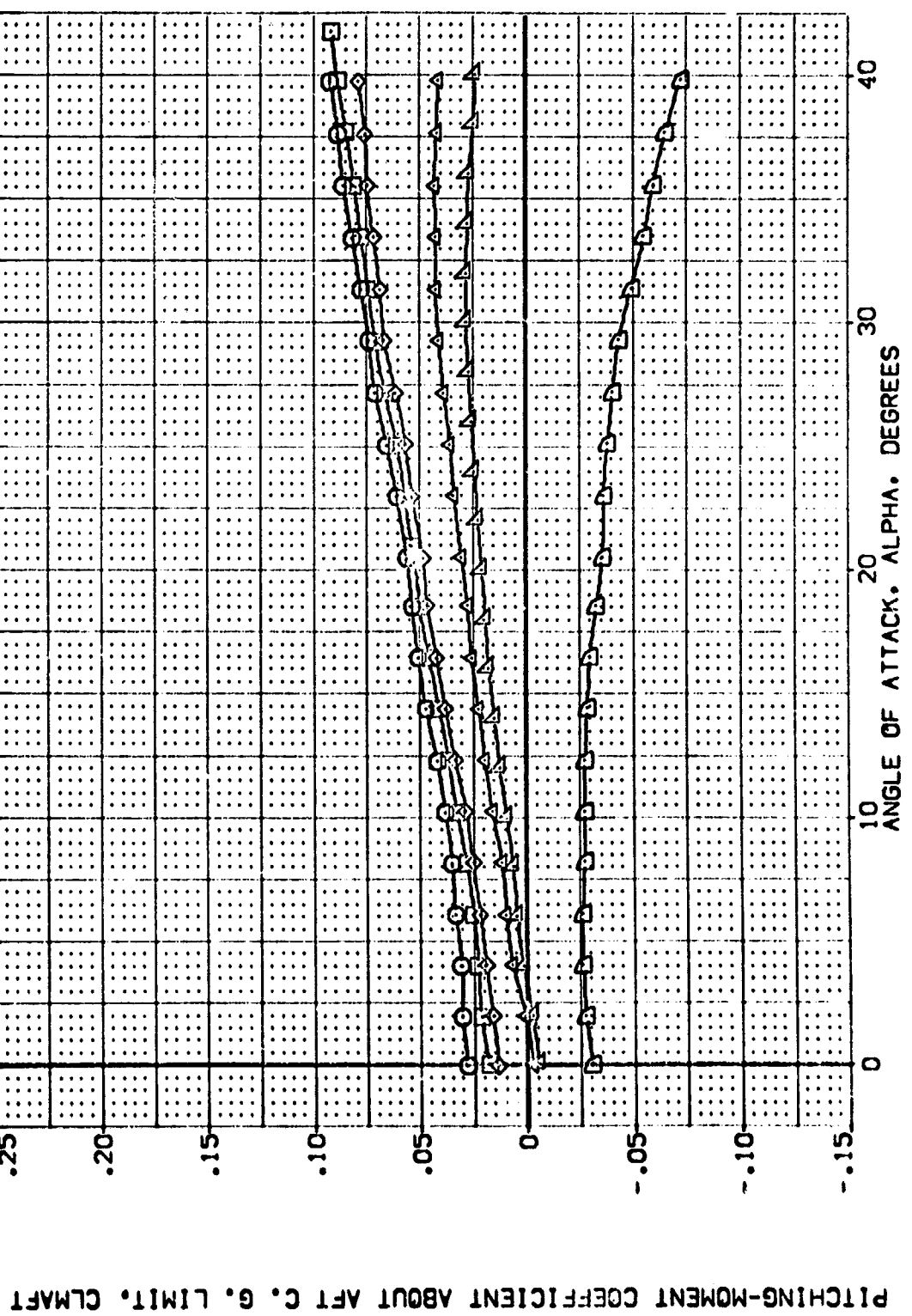
PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFT

INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(C)MACH = 1.95

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(G92001)	MSFC 581(DA19) C28 34-0 (DCPH) (VE)(VR)	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(G92002)	MSFC 581(DA19) C28 34-0 (DCPH) (VE)(VR)	-33.650	-11.700	25.550	-1.680	SREF 2741.8000 SQ. FT
(G92003)	MSFC 581(DA19) C28 34-0 (DCPH) (VE)(VR)	-23.840	-11.700	25.550	-1.680	LREF 481.6480 IN.
(G92004)	MSFC 581(DA19) C28 34-0 (DCPH) (VE)(VR)	-15.550	-11.700	25.550	-1.680	BREF 936.7000 IN.
(G92005)	MSFC 581(DA19) C28 34-0 (DCPH) (VE)(VR)	-4.310	-11.700	25.550	-1.680	XMRP 1107.1960 IN.
		.000	-11.700	25.550	-1.680	YMRP .0000 IN.
		16.790	-11.700	25.550	-1.680	ZMRP .0000 IN.
						SCALE .0040



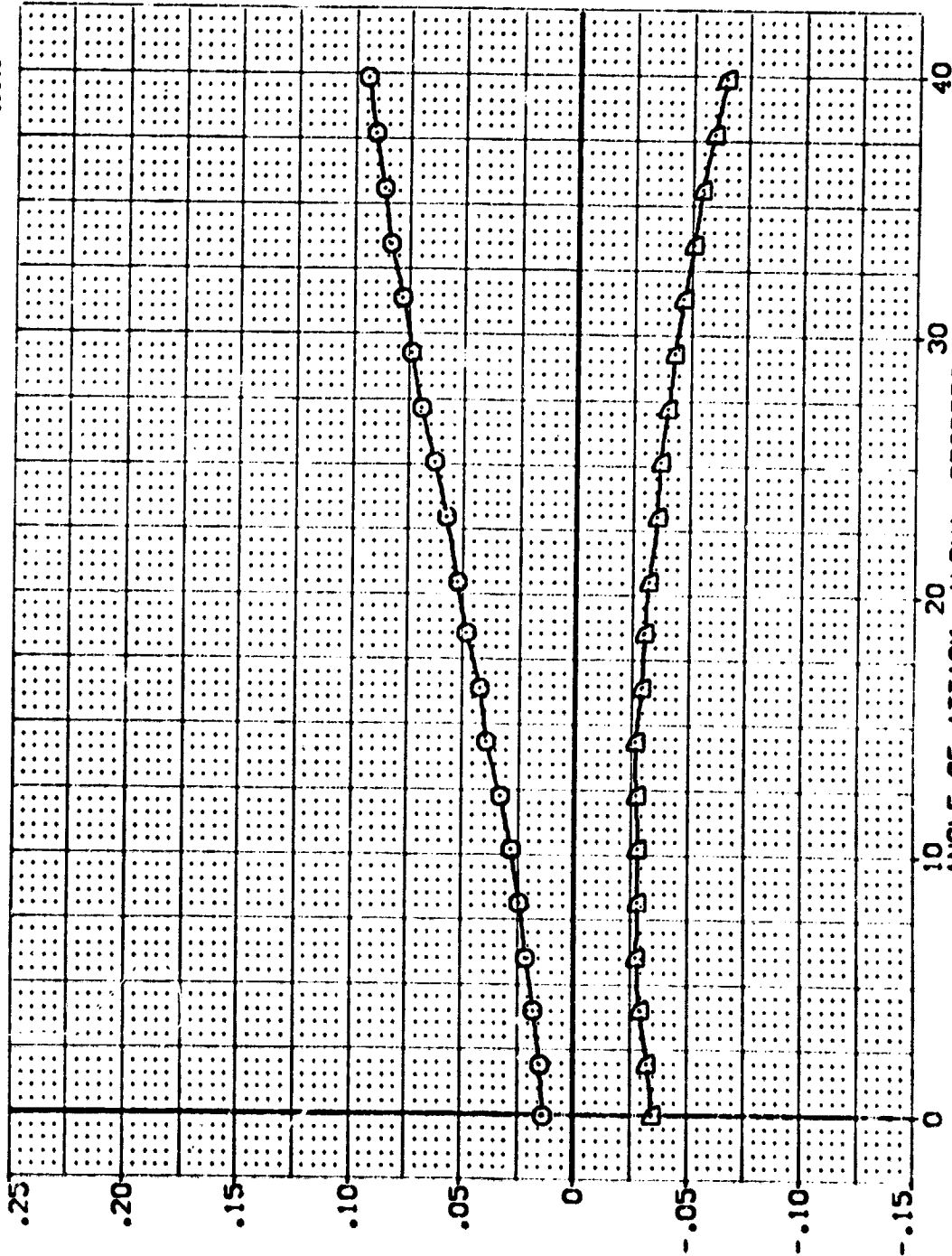
INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(F)MACH = 2.99

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [092001] MSC SB(CA49) DB 34-0 (BCFN) (VE)(VR)
 [092002] DATA NOT AVAILABLE
 [092003] DATA NOT AVAILABLE
 [092004] DATA NOT AVAILABLE
 [092005] MSC SB(CA49) DB 34-0 (BCFN) (VE)(VR)

ELEVTR BDLAP SPOBRK AILRON REFERENCE INFORMATION
 -33.650 -11.700 25.550 2741.8000 SQ. FT
 -23.840 -11.700 25.550 481.6183 IN.
 -15.550 -11.700 25.550 936.7000 IN.
 -4.310 -11.700 25.550 1107.1550 IN.
 16.750 -11.700 25.550 0.0000 IN.
 SCALE 0.043

PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT. CLMAFT

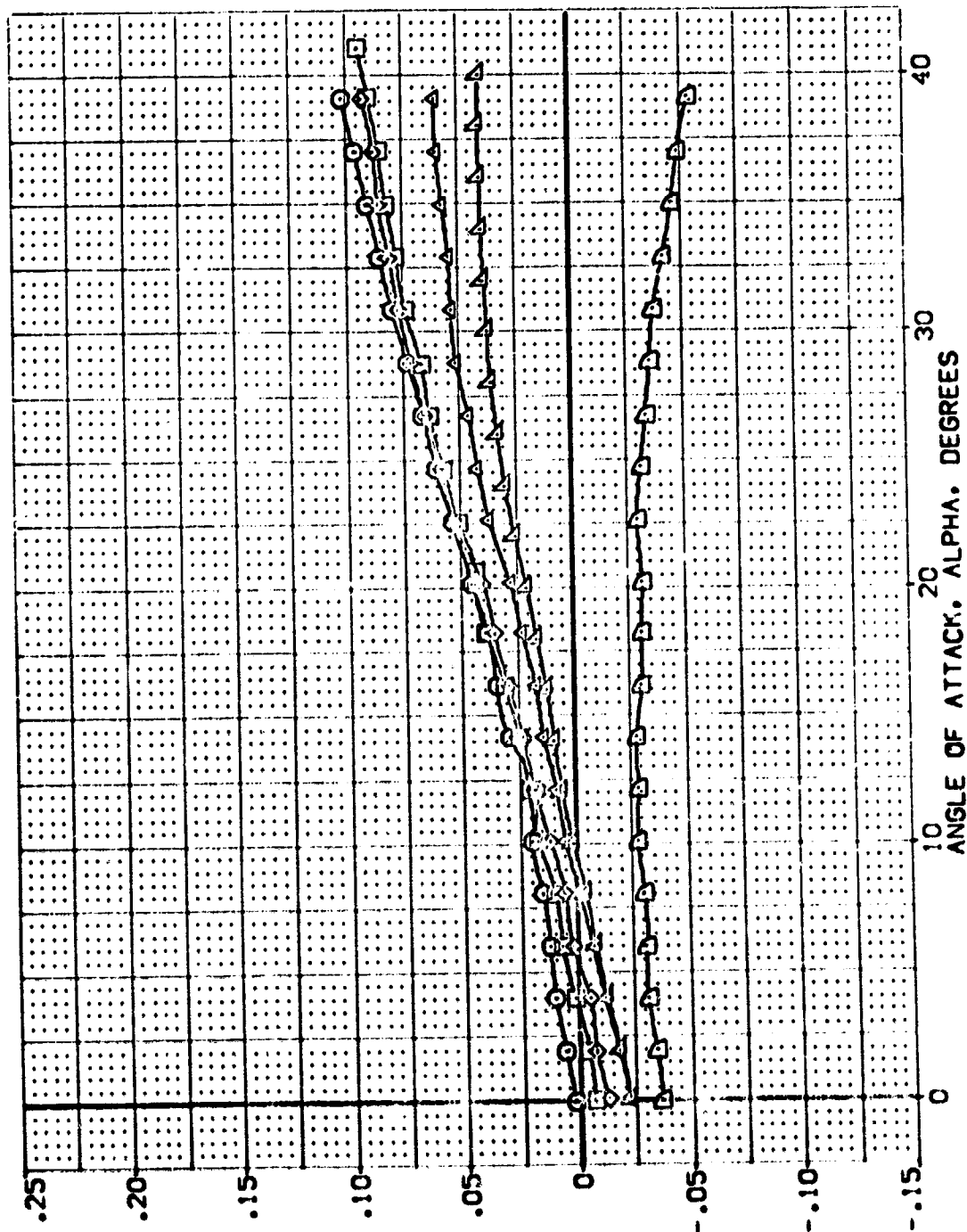


INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(G)MAC = 4.00

PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFT

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDBRK	ALLRON	REFERENCE INFORMATION
(082001)	197C 591 (DA49) C28 34-0 (BCFM) (VE)(VR)	-23.650	-11.700	25.550	-1.320	SREF 2741.8000 SO. FT
(082117)	197C 591 (DA49) C28 34-0 (BCFM) (VE)(VR)	-23.650	-11.700	25.550	-1.240	LREF 481.6480 IN.
(082002)	197C 591 (DA49) C28 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-1.100	BREF 936.7000 IN.
(082003)	197C 591 (DA49) C28 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-1.630	WREF 1107.1500 IN.
(082004)	197C 591 (DA49) C28 34-0 (BCFM) (VE)(VR)	.000	-11.700	25.550	-1.680	ZREF .0000 IN.
(082005)	197C 591 (DA49) C28 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZREF .0000 IN.
						SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

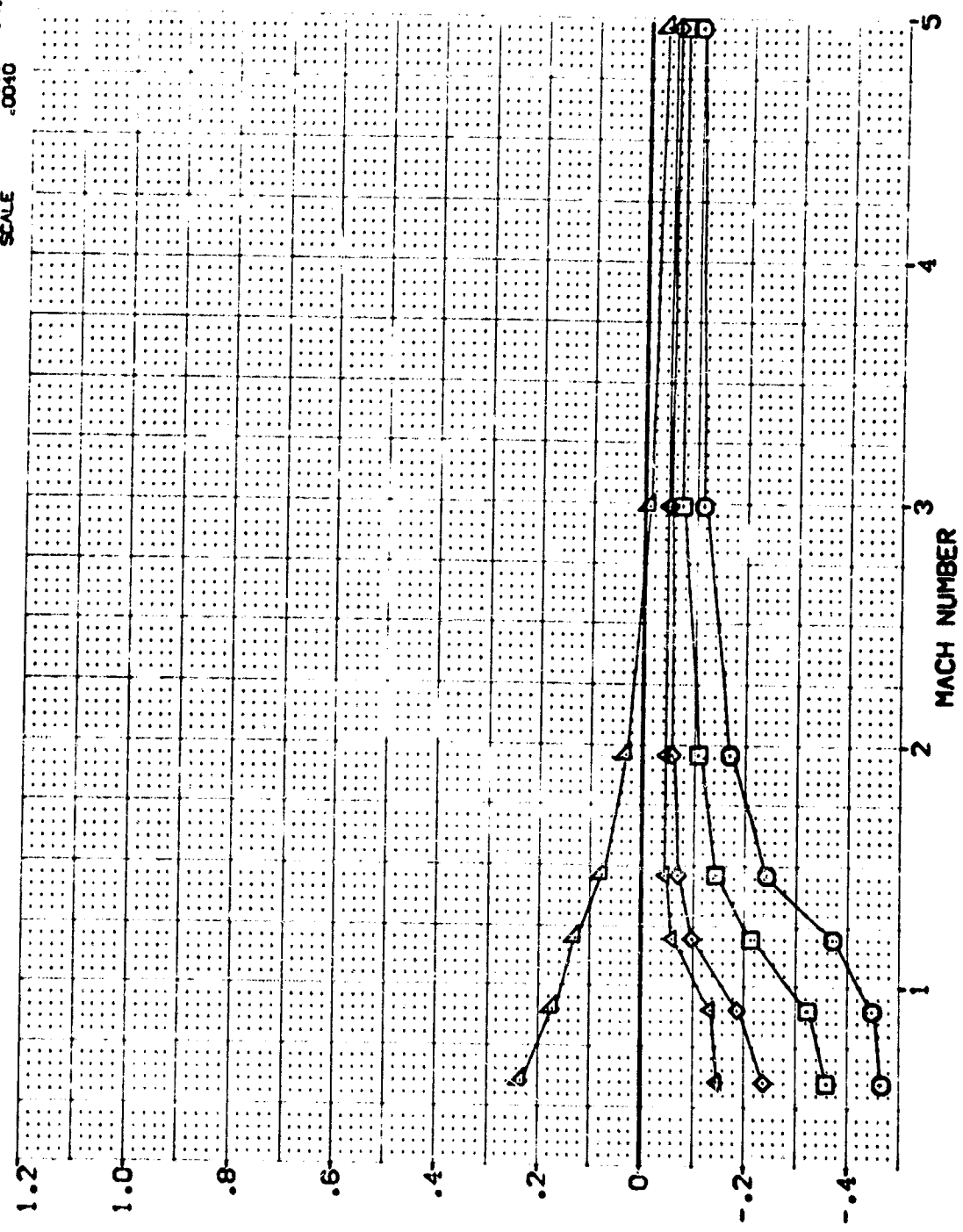
(H)MAC = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(832001)	POST 591 (CA19)	DB 34-0	(BDTH)	(VE1)VR
(832002)	POST 591 (CA19)	DB 34-0	(BDTH)	(VE1)VR
(832003)	POST 591 (CA19)	DB 34-0	(BDTH)	(VE1)VR
(832004)	POST 591 (CA19)	DB 34-0	(BDTH)	(VE1)VR
(832005)	POST 591 (CA19)	DB 34-0	(BDTH)	(VE1)VR

ELEVTR BOFLAP SPDBRK AILRON REFERENCE INFORMATION

-30.650	-11.700	25.550	-1.320	SREF	2741	8000	50	FT
-15.550	-11.700	25.550	-1.400	LREF	481	6480	IN	
-4.310	-11.700	25.550	-1.630	BREF	936	7000	IN	
.000	-11.700	25.550	-1.680	YREF	1081	3500	IN	
16.790	-11.700	25.550	-1.680	YREF	1081	3500	IN	
				SCALE				



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(A)ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

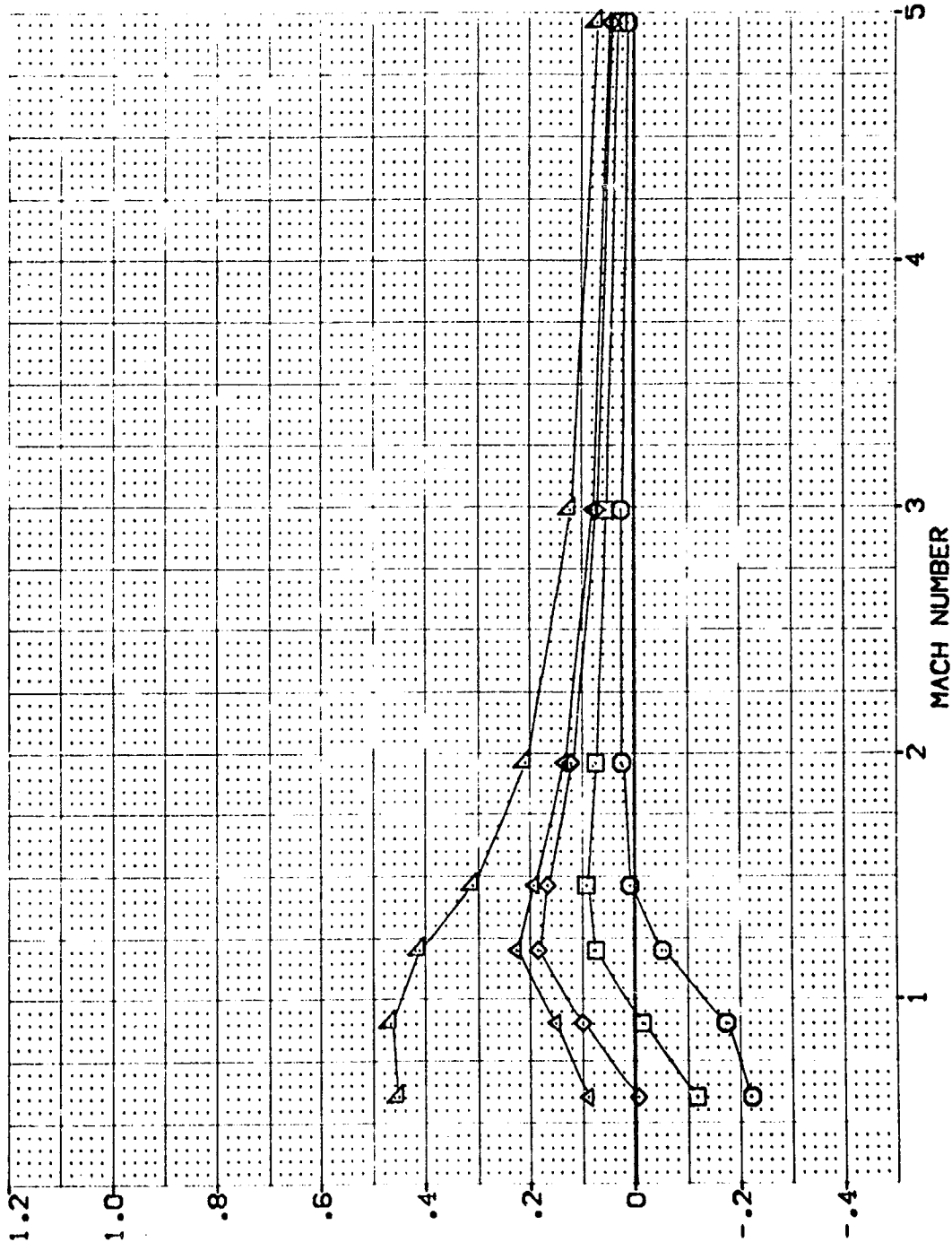
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	(VE) (VR)
(892001)	MSFC 581 (DA45) DB 3A-0 (BCFM)	(VE) (VR)
(892002)	MSFC 581 (DA45) DB 3A-0 (BCFM)	(VE) (VR)
(892003)	MSFC 581 (DA45) DB 3A-0 (BCFM)	(VE) (VR)
(892004)	MSFC 581 (DA45) DB 3A-0 (BCFM)	(VE) (VR)
(892005)	MSFC 581 (DA45) DB 3A-0 (BCFM)	(VE) (VR)

ELEVTR BDFLAP SPDBRK ALLRON

ELEVTR	BDFLAP	SPDBRK	ALLRON
-33.650	-11.700	25.550	-320
-15.550	-11.700	25.550	-400
-4.310	-11.700	25.550	-530
.000	-11.700	25.550	-680
16.730	-11.700	25.550	-1.680

REFERENCE INFORMATION

REFERENCE INFORMATION	SO. FT
SREF 2741.8000	IN.
LREF 481.6480	IN.
BREF 936.7000	IN.
XMRP 1081.3500	IN.
YMRP .0000	IN.
ZMRP .0000	IN.
SCALE .0040	



INTERPOLATED ZERO ELEVON CHARACTERISTICS

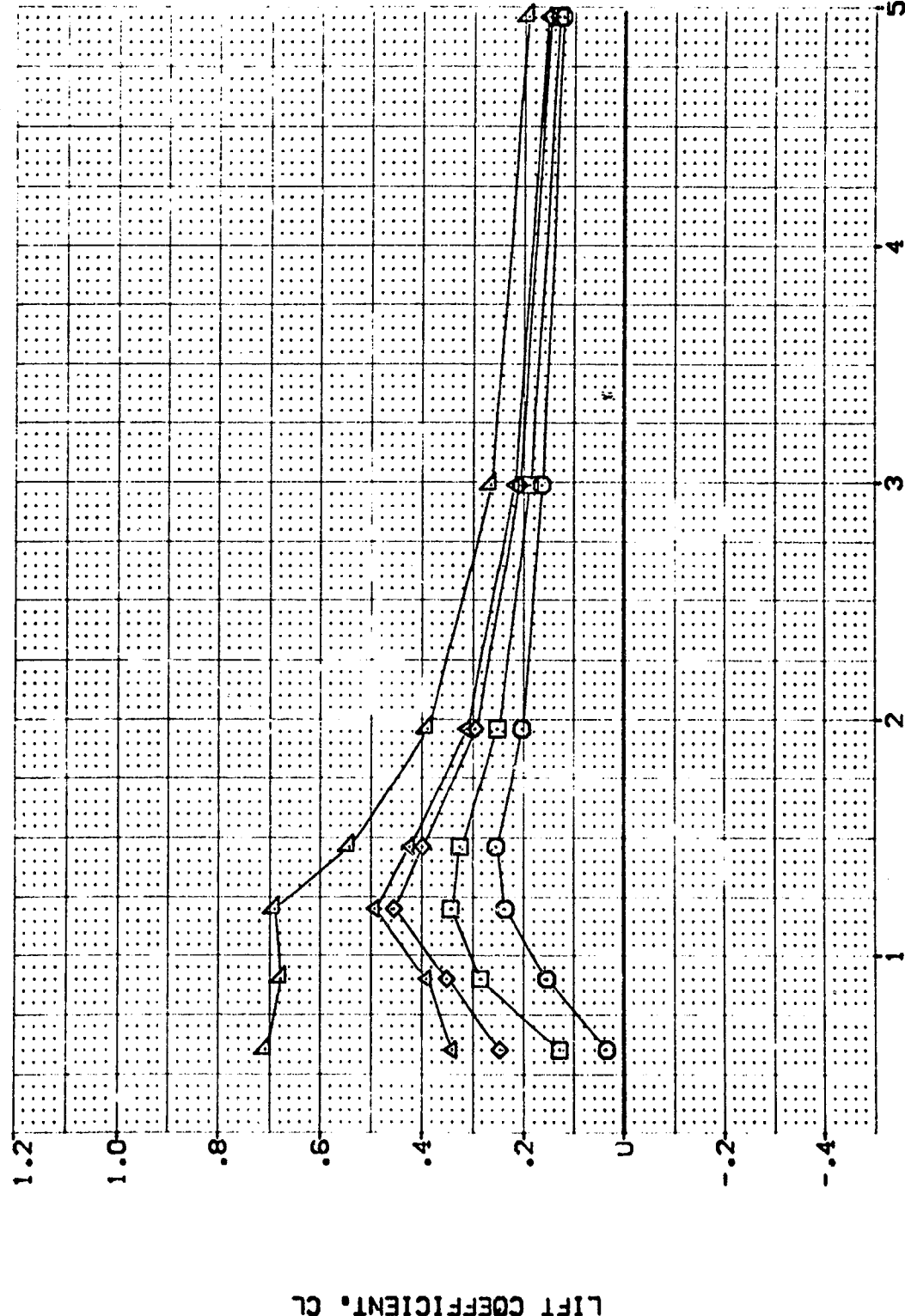
(B) ALPHA = 5.00

DATA SET SYMBOL
 (000001)
 (000002)
 (000003)
 (000004)
 (000005)

CONFIGURATION DESCRIPTION
 MSC 581(0A49) 078 34-0 (BCFM) (VE)(VR)
 MSC 581(0A49) 078 34-0 (BCFM) (VE)(VR)
 MSC 581(0A49) 078 34-0 (BCFM) (VE)(VR)
 MSC 581(0A49) 078 34-0 (BCFM) (VE)(VR)

ELEVTR BDFLAP SPOBRK AILRON
 -39.650 -11.700 25.950 -1.320
 -15.950 -11.700 25.950 -1.400
 -4.310 -11.700 25.950 -1.630
 16.790 -11.700 25.950 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

CCJALPHA = 10.00

DATA SET SYMBOL

(032001)
(032002)
(032003)
(032004)
(032005)

CONFIGURATION DESCRIPTION

MS-C 581(0A49) 058 34-0 (BCFH) (VE)(VR)
MS-C 531(0A49) 053 34-0 (BCFH) (VE)(VR)
MS-C 531(0A49) 053 34-0 (BCFH) (VE)(VR)
MS-C 581(0A49) 058 34-0 (BCFH) (VE)(VR)
MS-C 581(0A49) 058 34-0 (BCFH) (VE)(VR)

ELEVTR 30.650
-15.550
-4.310
0.000
16.790

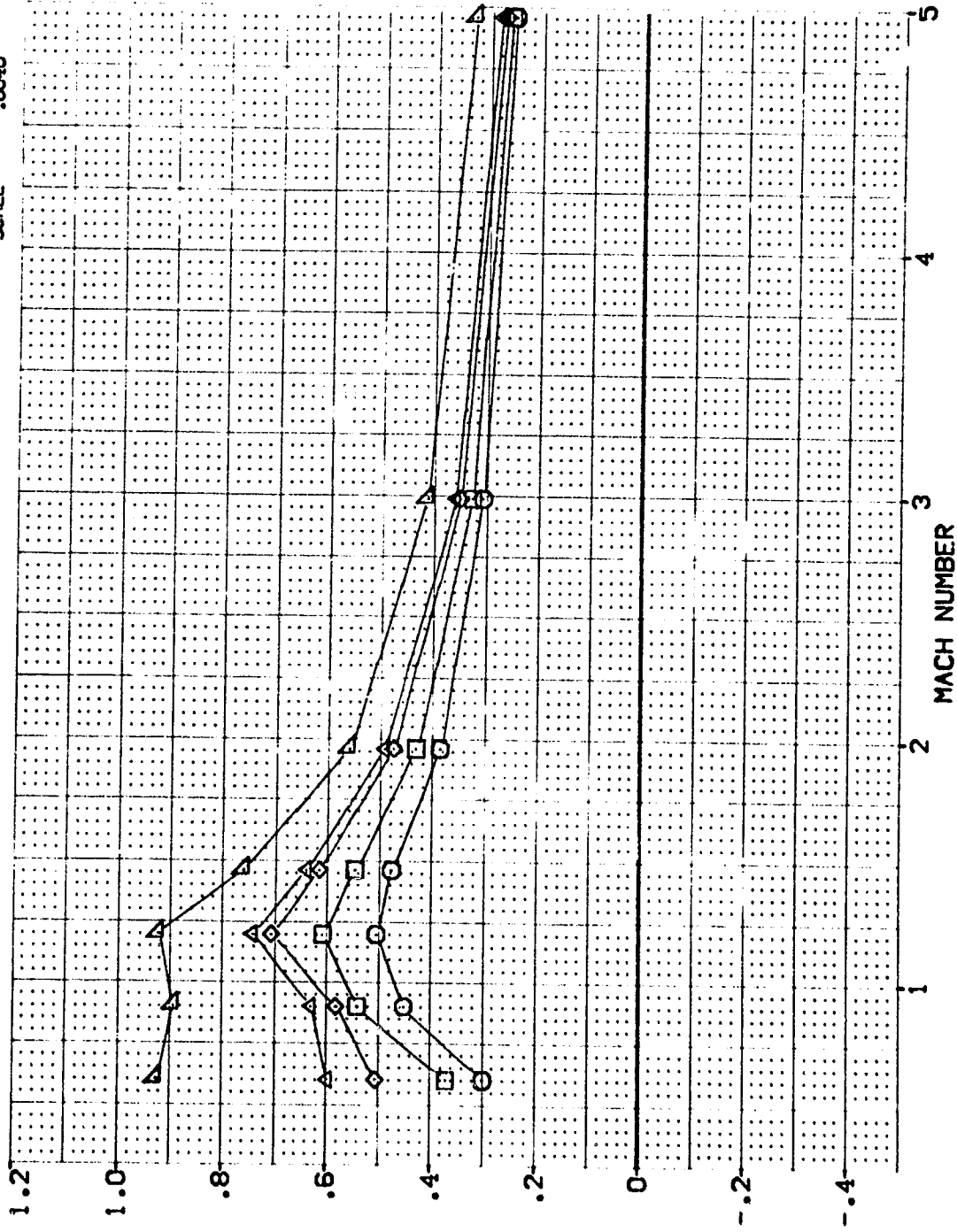
BDCLAP -11.700
-11.700
-11.700
-11.700
-11.700

SPOBRK 25.550
25.550
25.550
25.550
25.550

ALLRON -0.320
-0.400
-0.630
-1.680

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3500 IN.
YMRP 0.0000 IN.
ZMRP 0.0000 IN.
SCALE 0.0040



LIFT COEFFICIENT, CL

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(CD)ALPHA = 15.00

DATA SET SYMBOL

{ 692001 }
{ 692002 }
{ 692003 }
{ 692004 }
{ 692005 }

CONFIGURATION DESCRIPTION

MSC 581 (DA49) 078 34-0 (BCFM) (VE) (VR)
MSC 581 (DA49) 078 34-0 (BCFM) (VE) (VR)
MSC 581 (DA49) 078 34-0 (BCFM) (VE) (VR)
MSC 581 (DA49) 078 34-0 (BCFM) (VE) (VR)
MSC 581 (DA49) 078 34-0 (BCFM) (VE) (VR)

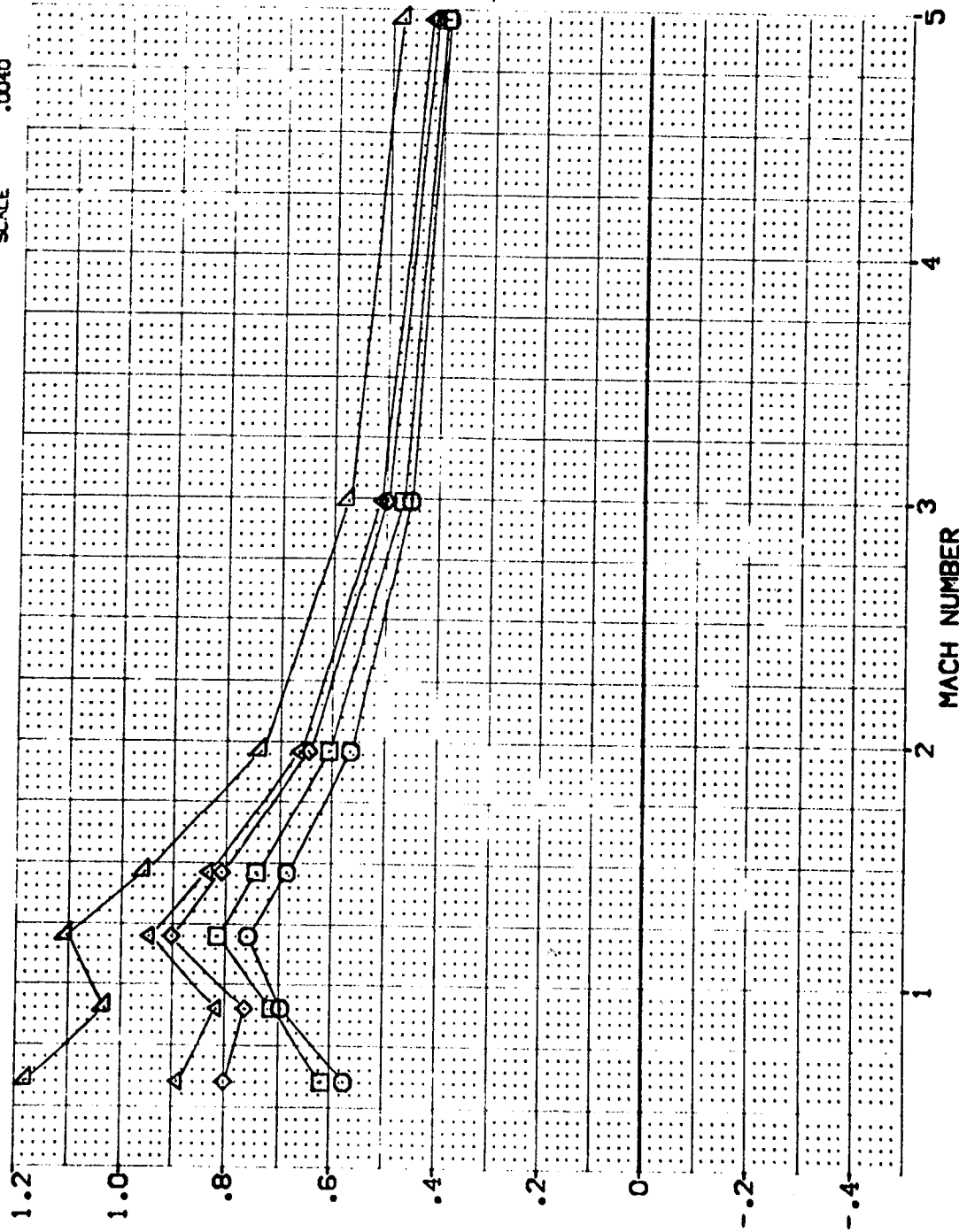
ELEVTR -33.630
-15.550
-4.310
16.750

BDCLAP -11.700
-11.700
-11.700
-11.700

SPDRBK 25.550
25.550
25.550
25.550

AILRON -.320
-.400
-.630
-1.680

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3000 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



LIFT COEFFICIENT, CL

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E) ALPHA = 20.00

DATA SET SYMBOL

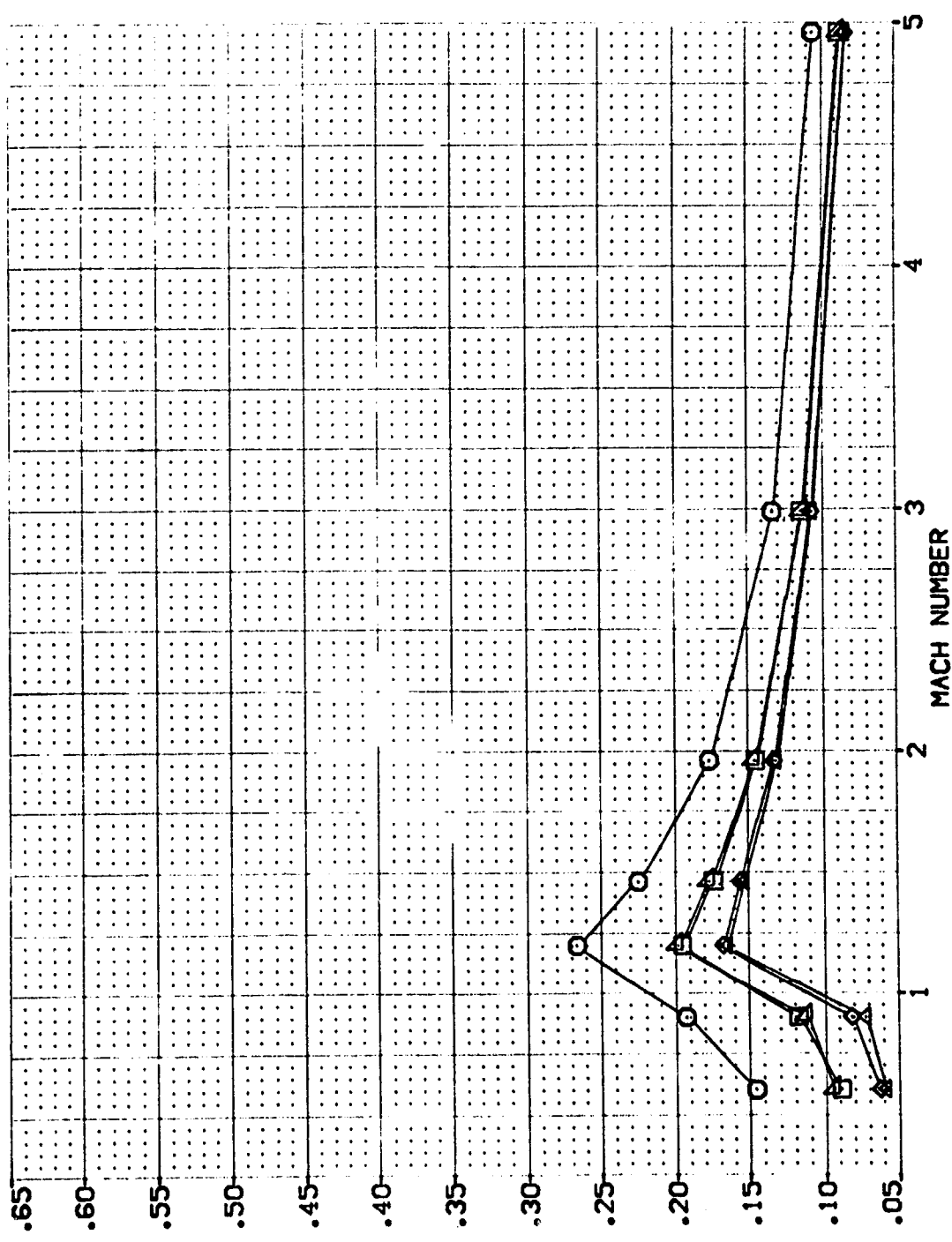
CONFIGURATION DESCRIPTION

VE(VR)

ELEVTR BDFLAP SPOBRK AILRON

REFERENCE INFORMATION

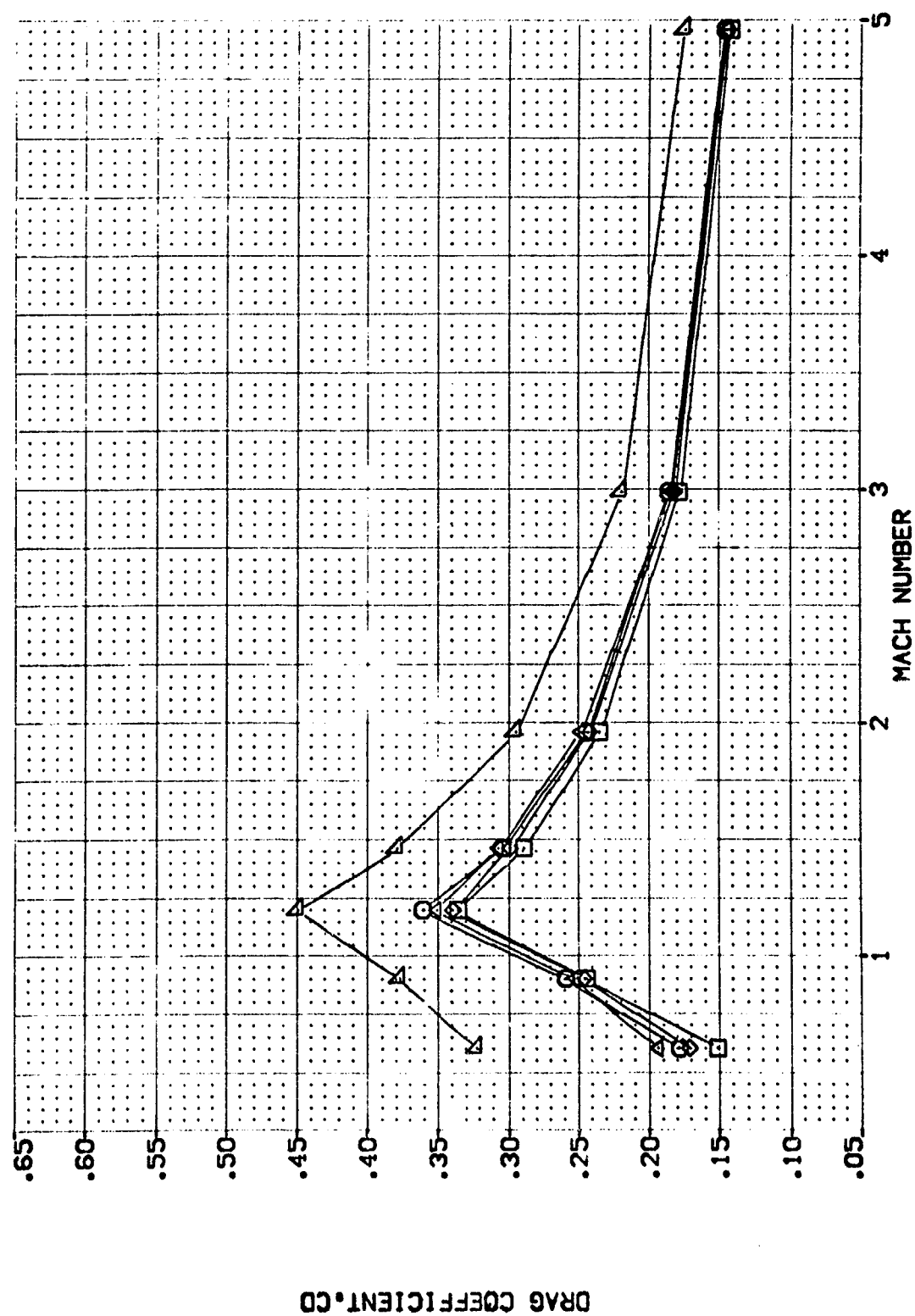
DRAG COEFFICIENT CD



INTERPOLATED ZERO ELEVON CHARACTERISTICS

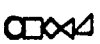
(A) ALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
[832001]	HSFC 581 (0419) ORB 34-0 (BDTH) (VE)(VR)	-33.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
[832002]	HSFC 581 (0419) ORB 34-0 (BDTH) (VE)(VR)	-15.550	-11.700	25.550	-1.400	LREF 481.6480 IN.
[832003]	HSFC 581 (0419) ORB 34-0 (BDTH) (VE)(VR)	-4.310	-11.700	25.550	-1.630	BREF 936.7000 IN.
[832004]	HSFC 581 (0419) ORB 34-0 (BDTH) (VE)(VR)	16.750	-11.700	25.550	-1.880	YMRP 1081.3800 IN.
[832005]	HSFC 581 (0419) ORB 34-0 (BDTH) (VE)(VR)					ZMRP .0000 IN.
						SCALE .0040

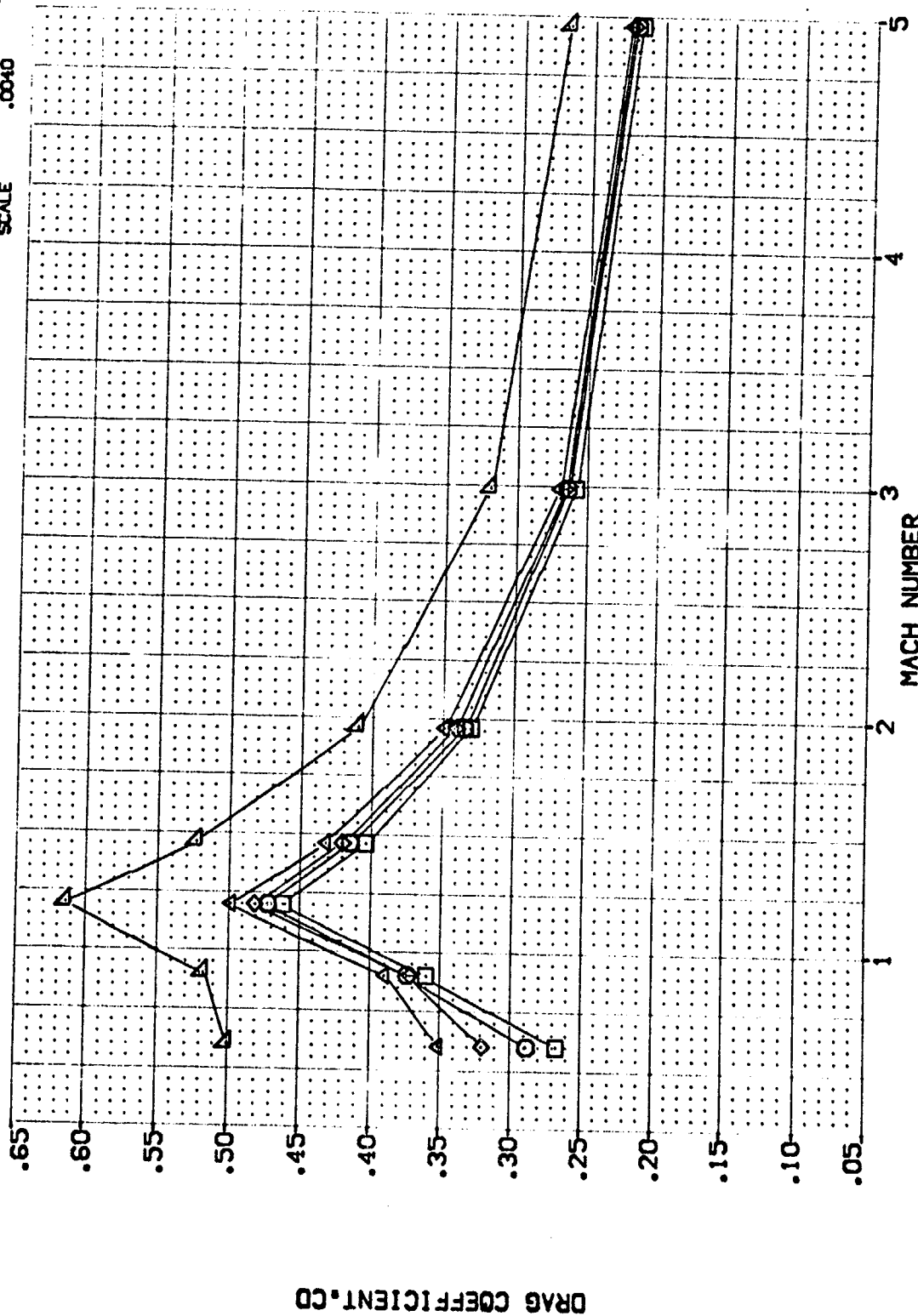


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(D)ALPHA = 15.00

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION:
 (832001) HSC 581 (0419) DB 34-0 (BDTH) (VE) (VR)
 (832002) HSC 581 (0419) DB 34-0 (BDTH) (VE) (VR)
 (832003) HSC 581 (0419) DB 34-0 (BDTH) (VE) (VR)
 (832004) HSC 581 (0419) DB 34-0 (BDTH) (VE) (VR)
 (832005) HSC 581 (0419) DB 34-0 (BDTH) (VE) (VR)

ELEVTR 80FLAP SPOBRK AILRON REFERENCE INFORMATION
 -33.650 -11.700 25.550 SREF 2741.8000 SQ. FT
 -15.550 -11.700 25.550 LREF 481.6480 IN.
 -4.310 -11.700 25.550 BREF 936.7000 IN.
 16.750 -11.700 25.550 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E) ALPHA = 20.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

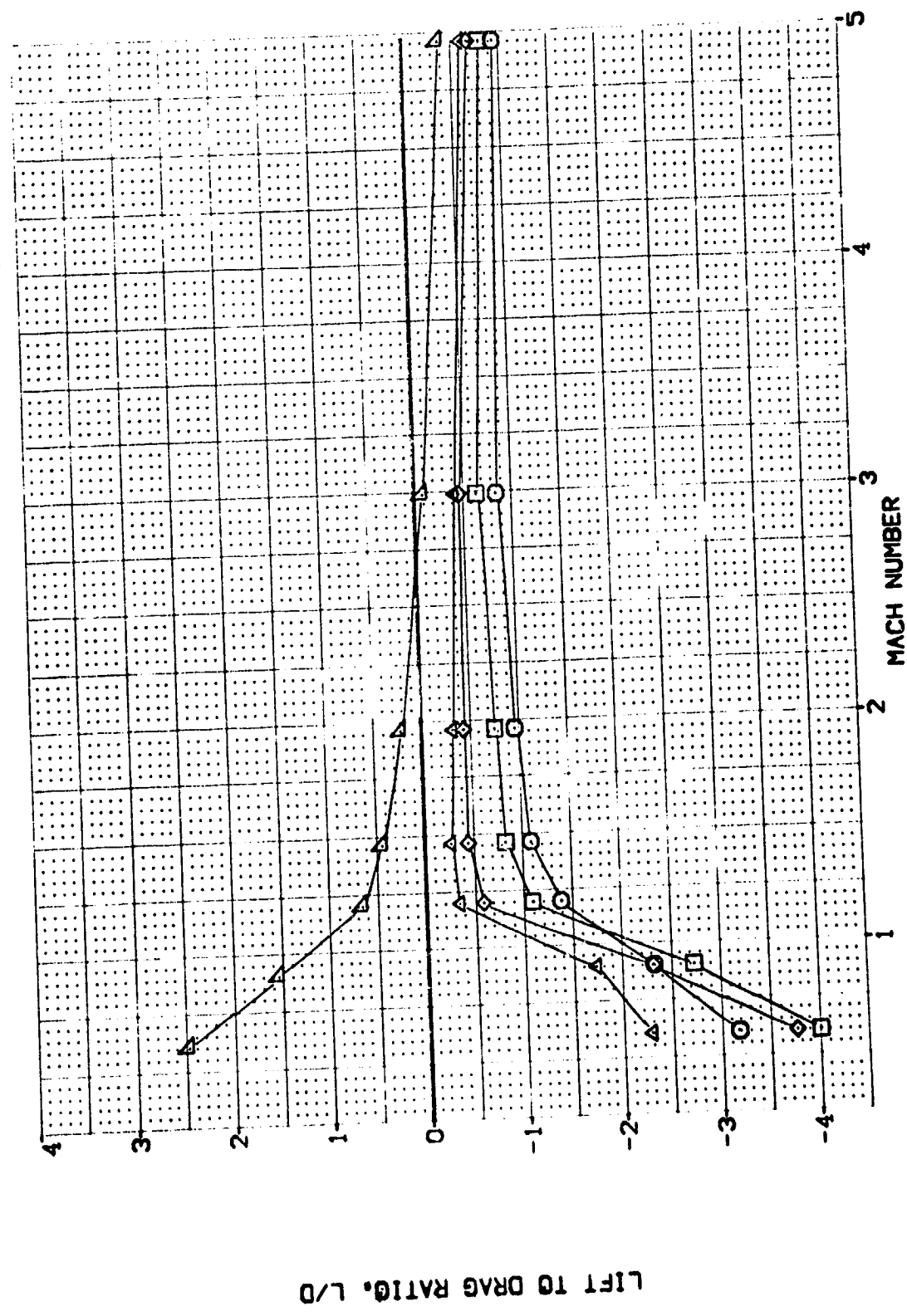
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	WEIGHT (VR)	WEIGHT (VR)	WEIGHT (VR)	WEIGHT (VR)
(820001)	HSFC 581(DA19) CRB 34-0 (BDTH)	(VR)	(VR)	(VR)	(VR)
(820002)	HSFC 581(DA19) CRB 34-0 (BDTH)	(VR)	(VR)	(VR)	(VR)
(820003)	HSFC 581(DA19) CRB 34-0 (BDTH)	(VR)	(VR)	(VR)	(VR)
(820004)	HSFC 581(DA19) CRB 34-0 (BDTH)	(VR)	(VR)	(VR)	(VR)
(820005)	HSFC 581(DA19) CRB 34-0 (BDTH)	(VR)	(VR)	(VR)	(VR)

REFERENCE INFORMATION

REFERENCE INFORMATION	SCALE
SREF 2741.8000	50. FT
LREF 481.8490	IN.
BREF 936.7000	IN.
YREF 1081.3900	IN.
ZREF 0.0000	IN.
YREF 0.0000	IN.
ZREF 0.0000	IN.
SCALE 0.0010	

ELEVTR BOFLAP SPOBRK AIRPON

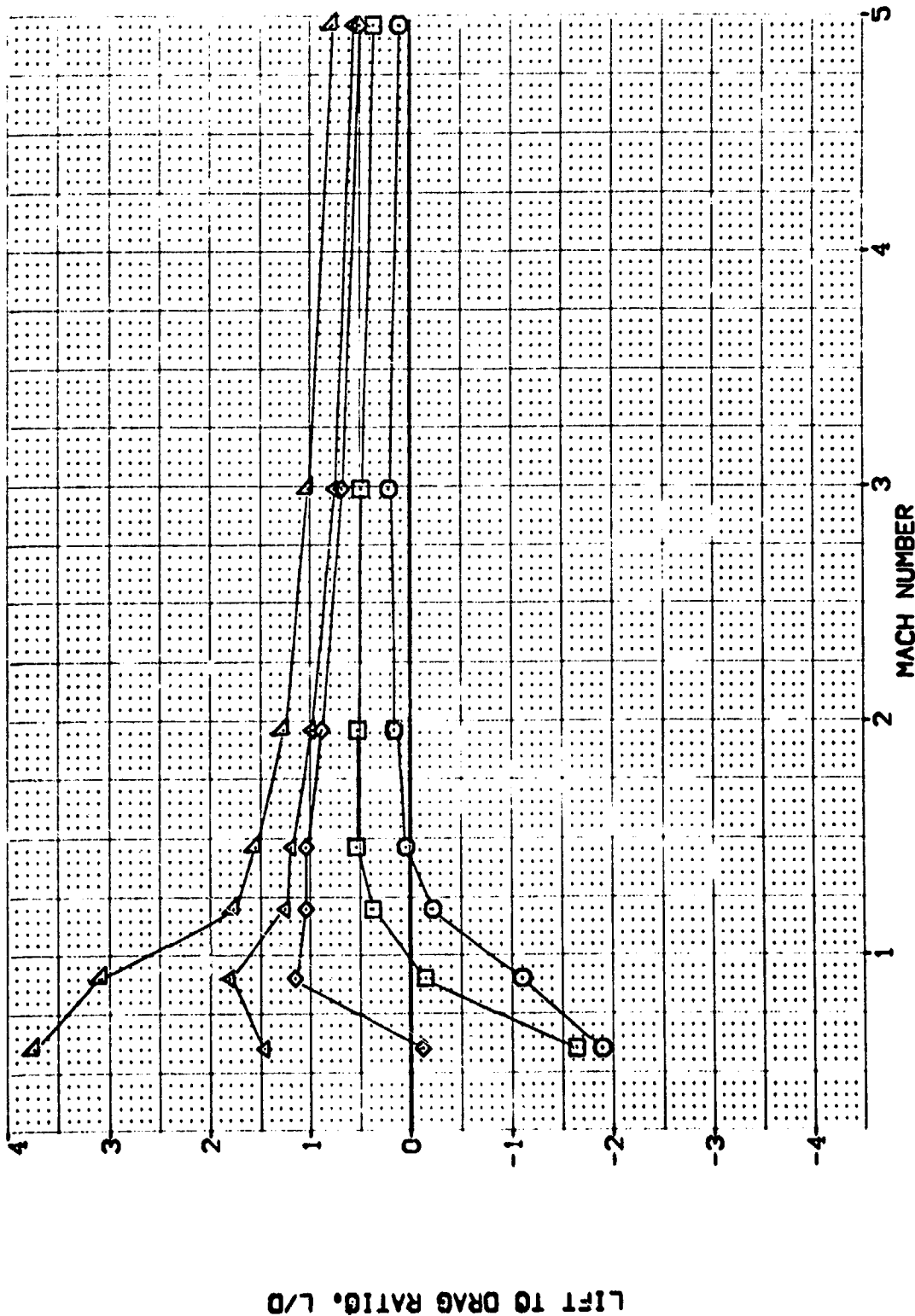
ELEVTR	BOFLAP	SPOBRK	AIRPON
-39.650	-11.700	25.550	-0.320
-15.550	-11.700	25.550	-0.400
-4.310	-11.700	25.550	-0.630
16.790	-11.700	25.550	-1.680



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(A)ALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDRBK	AILRON	REFERENCE INFORMATION
(822001)	HSTC 581(OA49) 088 34-0 (BOFH) (VE)(VR)	-33.650	-11.700	25.550	-.320	SREF 2741.8000 SQ. FT
(822002)	HSTC 581(OA49) 088 34-0 (BOFH) (VE)(VR)	-15.550	-11.700	25.550	-.400	LREF 481.6480 IN.
(822003)	HSTC 581(OA49) 088 34-0 (BOFH) (VE)(VR)	-4.310	-11.700	25.550	-.630	BREF 536.7000 IN.
(822004)	HSTC 581(OA49) 088 34-0 (BOFH) (VE)(VR)	.000	-11.700	25.550	-.740	XREF 1081.3900 IN.
(822005)	HSTC 581(OA49) 088 34-0 (BOFH) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZREF .0000 IN.
						SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)ALPHA = 5.00

DATA SET SYMBOL: (822001) (822002) (822003) (822004) (822005)

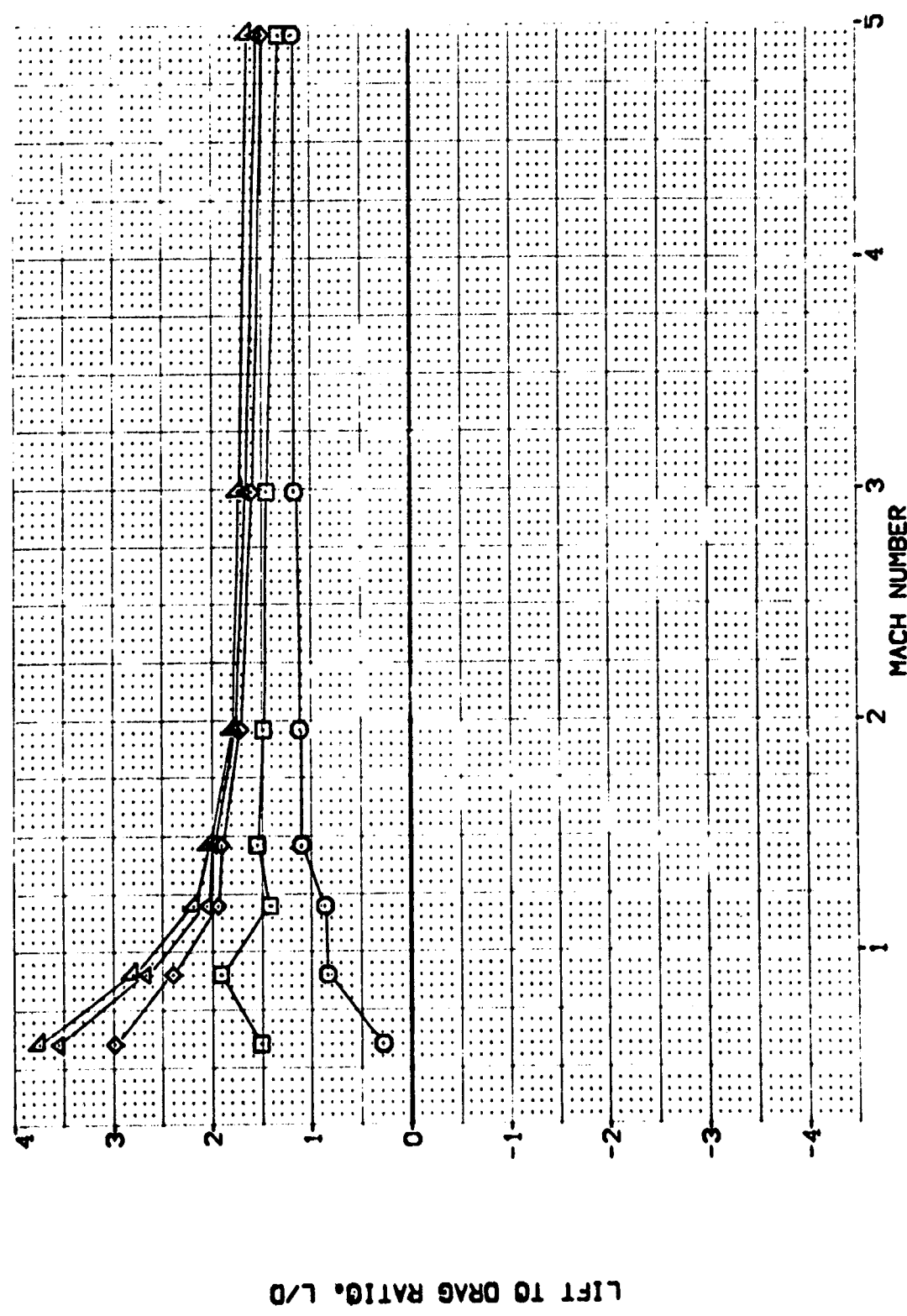
CONFIGURATION DESCRIPTION: HFC 581 (0A49) 088 34-0 (BDH) (VE)(VR) HFC 581 (0A49) 088 34-0 (BDH) (VE)(VR) HFC 581 (0A49) 088 34-0 (BDH) (VE)(VR) HFC 581 (0A49) 088 34-0 (BDH) (VE)(VR) HFC 581 (0A49) 088 34-0 (BDH) (VE)(VR)

ELEVTR BOFLAP SPOBRK AILRON REFERENCE INFORMATION

REF	SREF	2741.8000	50. FT
LREF	481.6480	IN.	
BREF	936.7000	IN.	
YMRP	1081.3500	IN.	
ZMRP	.0000	IN.	
SCALE	.0040		

ELEVTR BOFLAP SPOBRK AILRON REFERENCE INFORMATION

REF	SREF	2741.8000	50. FT
LREF	481.6480	IN.	
BREF	936.7000	IN.	
YMRP	1081.3500	IN.	
ZMRP	.0000	IN.	
SCALE	.0040		



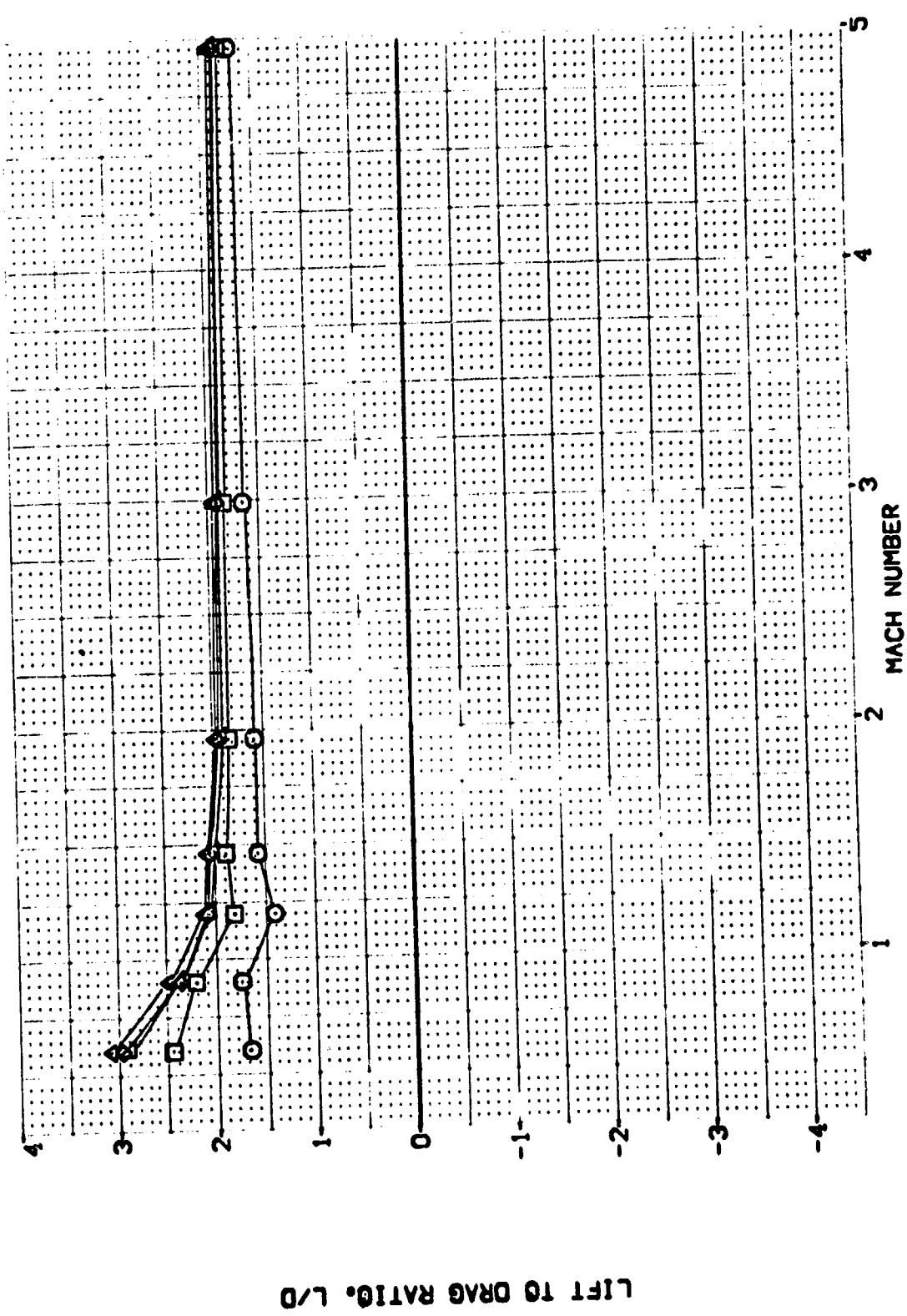
INTERPOLATED ZERO ELEVON CHARACTERISTICS
(C)ALPHA = 10.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(852001)	MSFC	581	(0A19)	0RB	34-0	(BDH)	(VE)(VR)
(852002)	MSFC	581	(0A19)	C-3	34-0	(BDH)	(VE)(VR)
(852003)	MSFC	581	(0A19)	C-3	34-0	(BDH)	(VE)(VR)
(852004)	MSFC	581	(0A19)	0RB	34-0	(BDH)	(VE)(VR)
(852005)	MSFC	581	(0A19)	0RB	34-0	(BDH)	(VE)(VR)

ELEVTR BOFLAP SPOBRK AILRON REFERENCE INFORMATION SQ. FT

-33.650	-11.700	25.950	-0.320	SRF	2741.80A1	50. FT
-15.550	-11.700	25.950	-0.400	LREF	481.6480	IN.
-4.310	-11.700	25.950	-0.630	BREF	936.7000	IN.
-1.000	-11.700	25.950	-1.680	YMRP	1081.3900	IN.
16.790	-11.700	25.950		ZMRP	.0000	IN.
				SCALE	.0040	



INTERPOLATED ZERO ELEVON CHARACTERISTICS

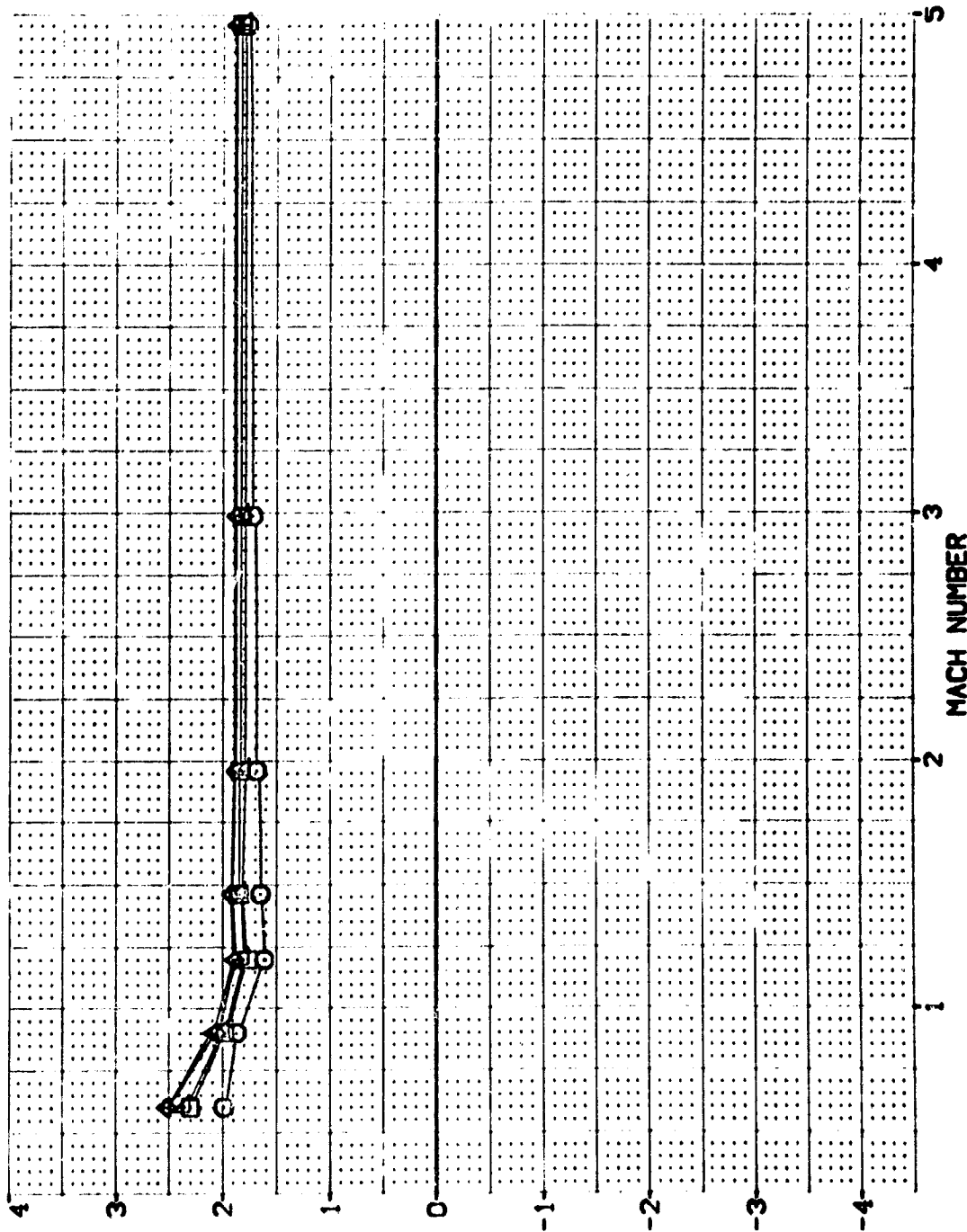
(CO)ALPHA = 15.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDPLAP	SPDRBK	ALIGN	REFERENCE INFORMATION
1820001	MSFC 581 (DA19) DBB 34-0 (BDTH) (VE) (VR)	-33.650	-11.700	23.550	-1.320	SREF 2741.8000 SQ. FT
1820002	MSFC 531 (DA19) DBB 34-0 (BDTH) (VE) (VR)	-15.550	-11.700	23.550	-1.400	LREF 481.6480 IN.
1820003	MSFC 581 (DA19) DBB 34-0 (BDTH) (VE) (VR)	-4.310	-11.700	23.550	-1.630	BREF 536.7000 IN.
1820004	MSFC 581 (DA19) DBB 34-0 (BDTH) (VE) (VR)	0.000	-11.700	23.550	-1.880	YREF 1081.3500 IN.
1820005	MSFC 581 (DA19) DBB 34-0 (BDTH) (VE) (VR)	16.750	-11.700	23.550	-1.880	ZREF 1000.0000 IN.

SCALE .0040



LIFT TO DRAG RATIO, L/D

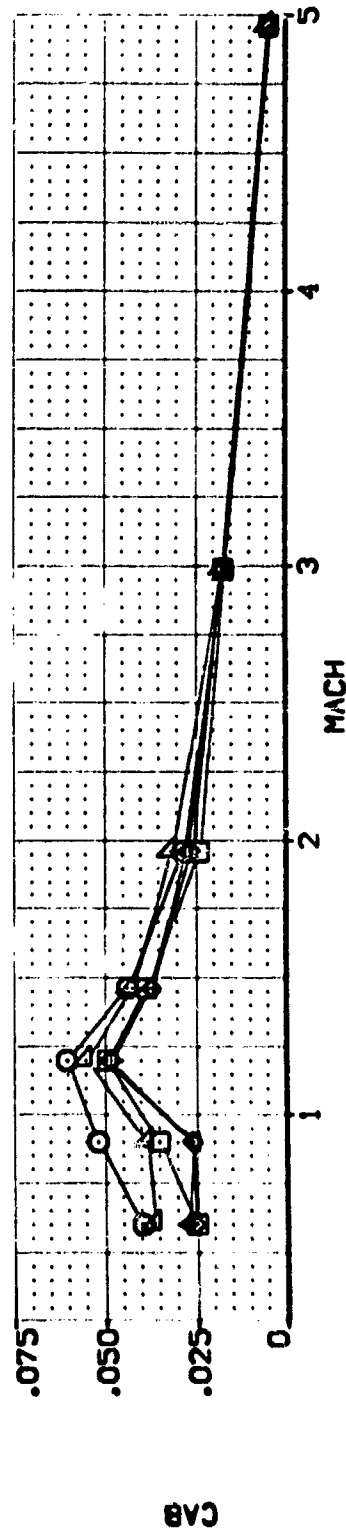
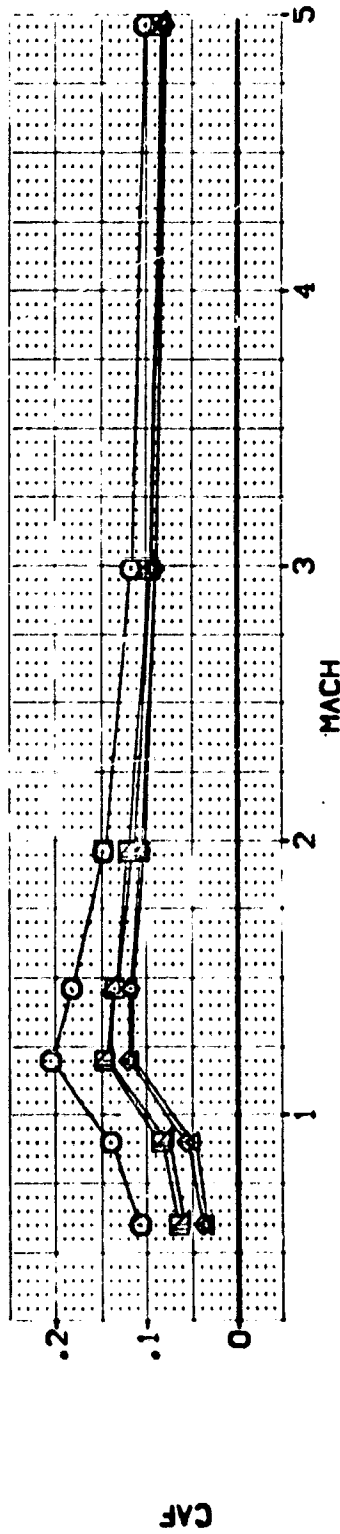
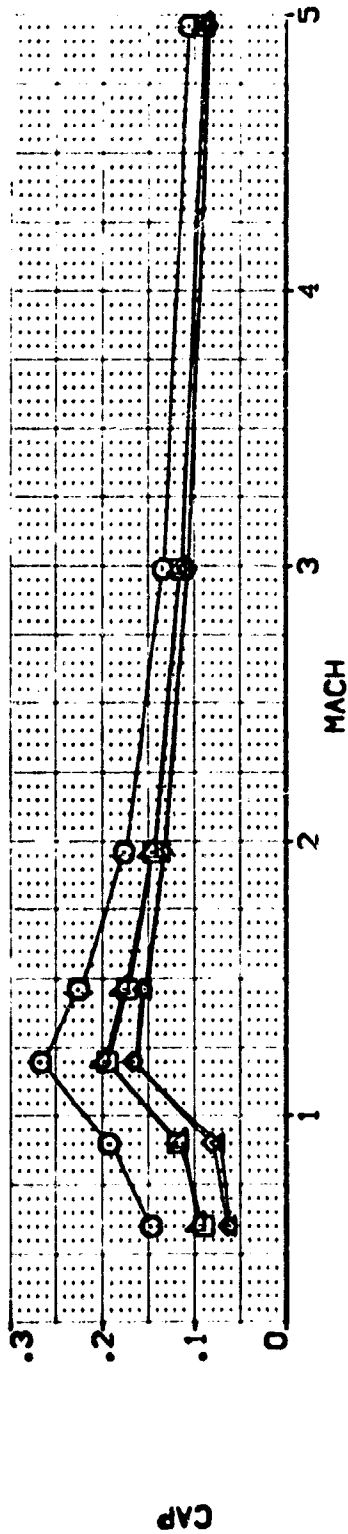
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(α) ALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BD FLAP	SPYSTR	AIRLON	SRF	SO
[822001]	MSFC 501 (0A45) DB 3A-0 (BDTH) (VE) (VR)	-13.550	-11.700	25.550	-1.320	2741.8000	IN.
[822002]	MSFC 501 (0A45) DB 3A-0 (BDTH) (VE) (VR)	-15.550	-11.700	25.550	-1.400	481.6480	IN.
[822003]	MSFC 501 (0A45) DB 3A-0 (BDTH) (VE) (VR)	-4.510	-11.700	25.550	-1.630	836.7000	IN.
[822004]	MSFC 501 (0A45) DB 3A-0 (BDTH) (VE) (VR)	0.000	-11.700	25.550	-1.880	1081.3800	IN.
[822005]	MSFC 501 (0A45) DB 3A-0 (BDTH) (VE) (VR)	16.750	-11.700	25.550	-1.880	0.0000	IN.

SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

{A}ALPHA = .00



DATA SET SYMBOL: (000001) (000002) (000003) (000004) (000005)

CONFIGURATION DESCRIPTION: MSFC 581(0A49) DBB 3A-0 (BOFM) (VE)(VR) MSFC 581(0A49) DBB 3A-0 (BOFM) (VE)(VR) MSFC 581(0A49) DBB 3A-0 (BOFM) (VE)(VR) MSFC 581(0A49) DBB 3A-0 (BOFM) (VE)(VR)

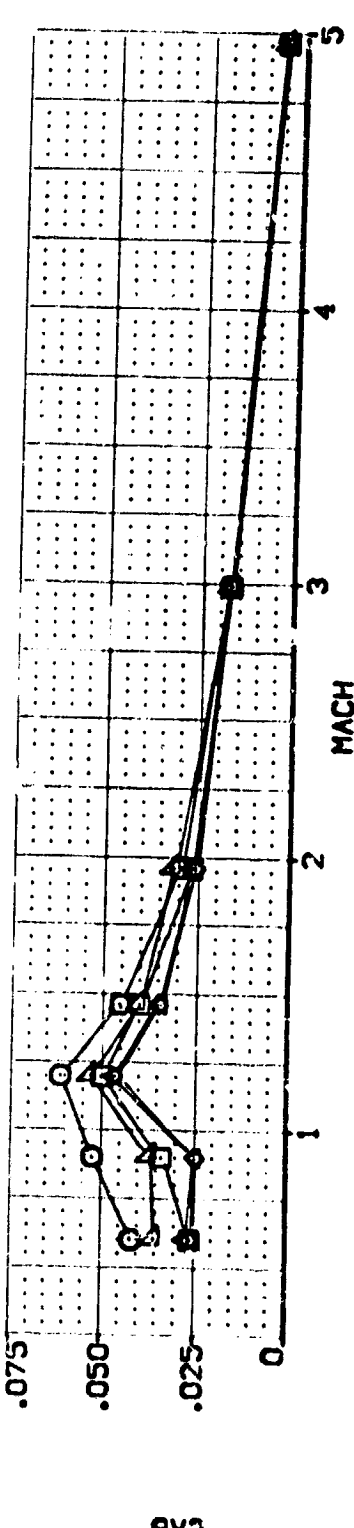
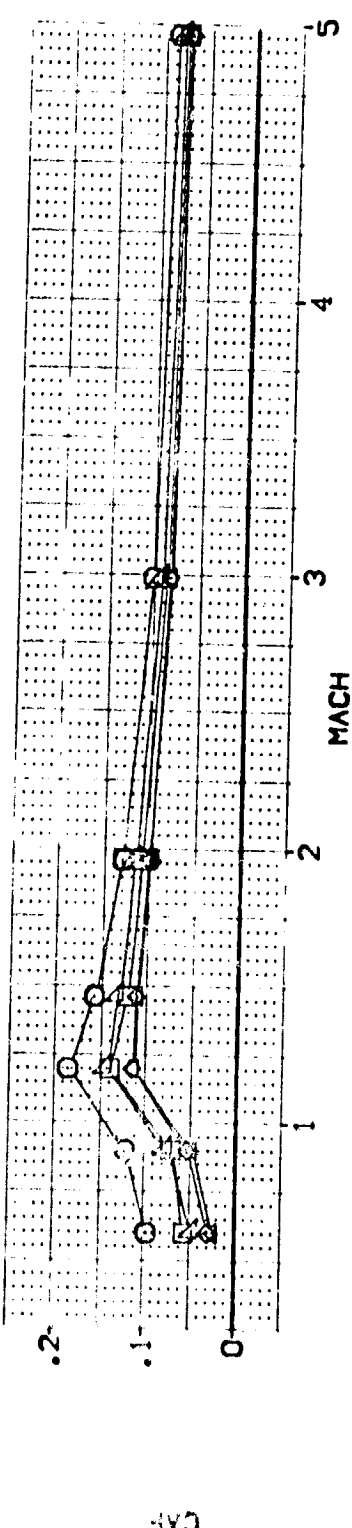
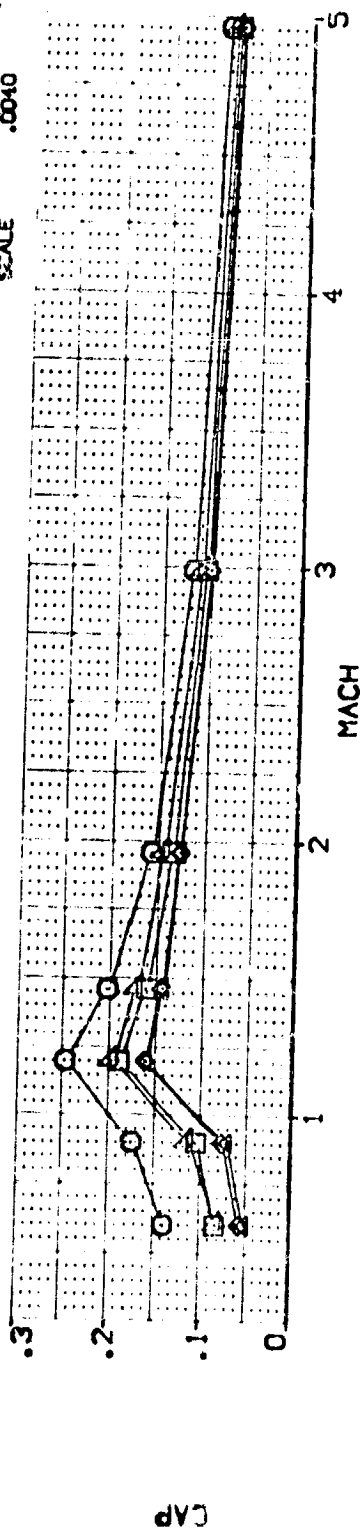
ELEVTR: -13.550 -15.550 -1.310 16.790

BOFLA: -11.710 -11.700 -11.700 -11.700

SPDRBK: 23.550 23.550 23.550 23.550

AILSON: -1.320 -1.400 -1.630 -1.680

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 938.7000 IN. XREF 1081.3800 IN. YREF .0000 IN. ZREF .0000 IN. SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B) ALPHA = 5.00

DATA SET SYMBOL

CONFIGURATION DESCRIPTION

VE(VR)

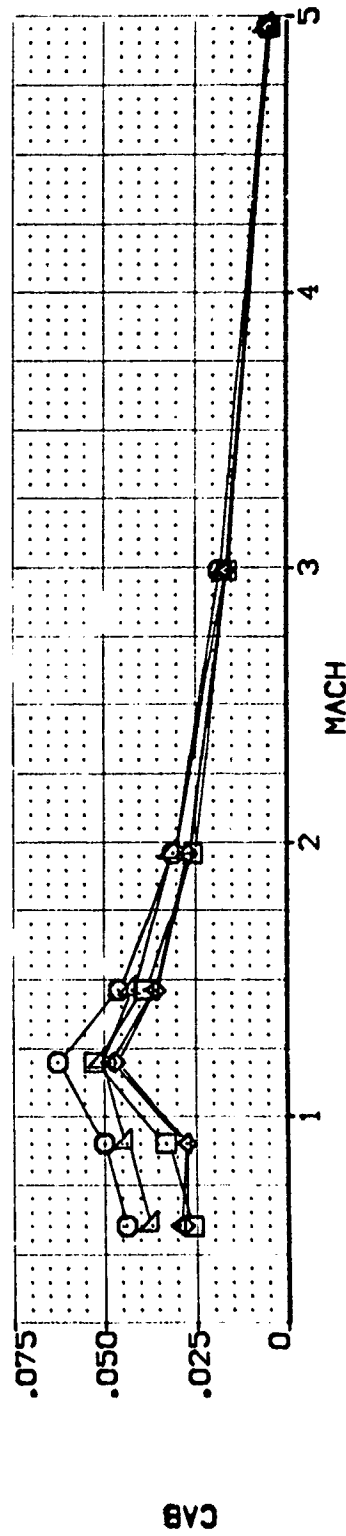
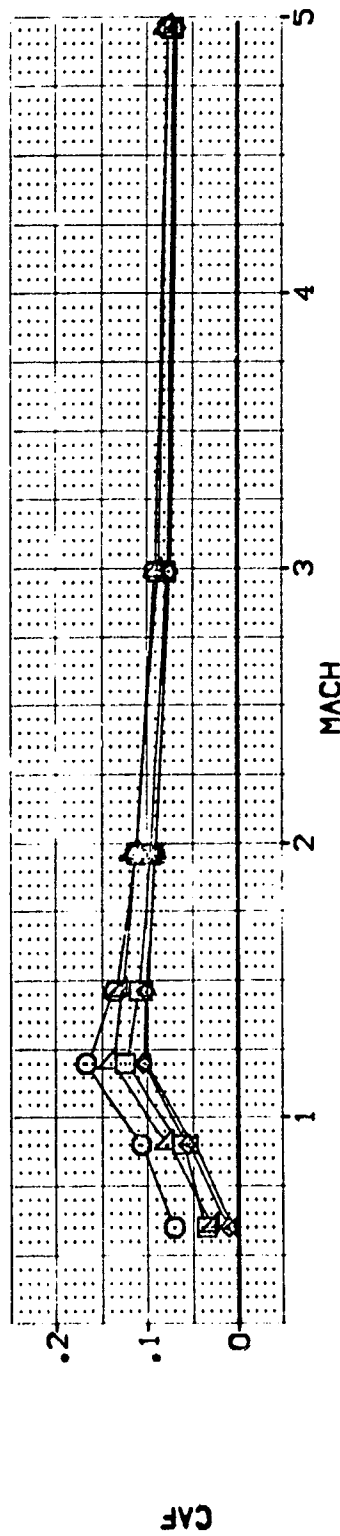
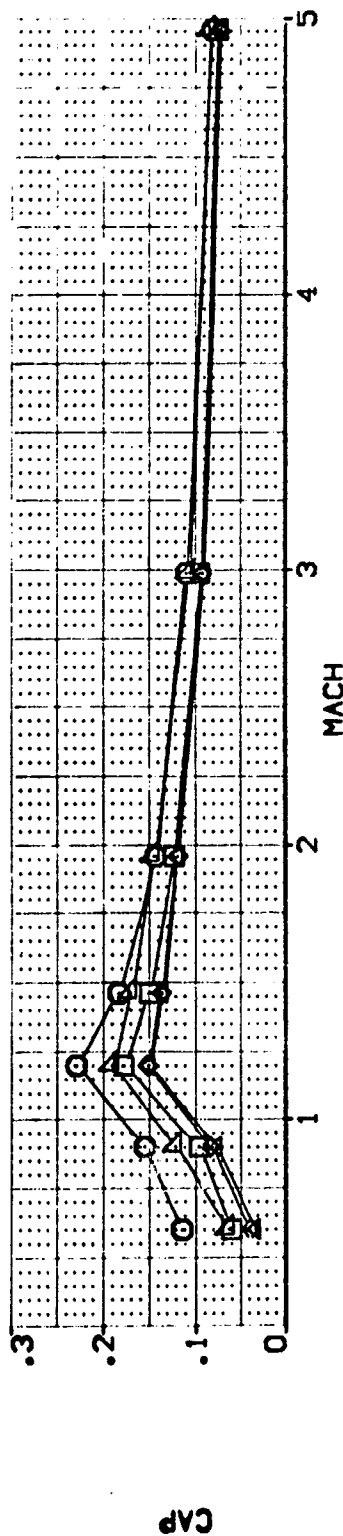
AILRON

SPOBRK

BDFLAP

ELEVTR

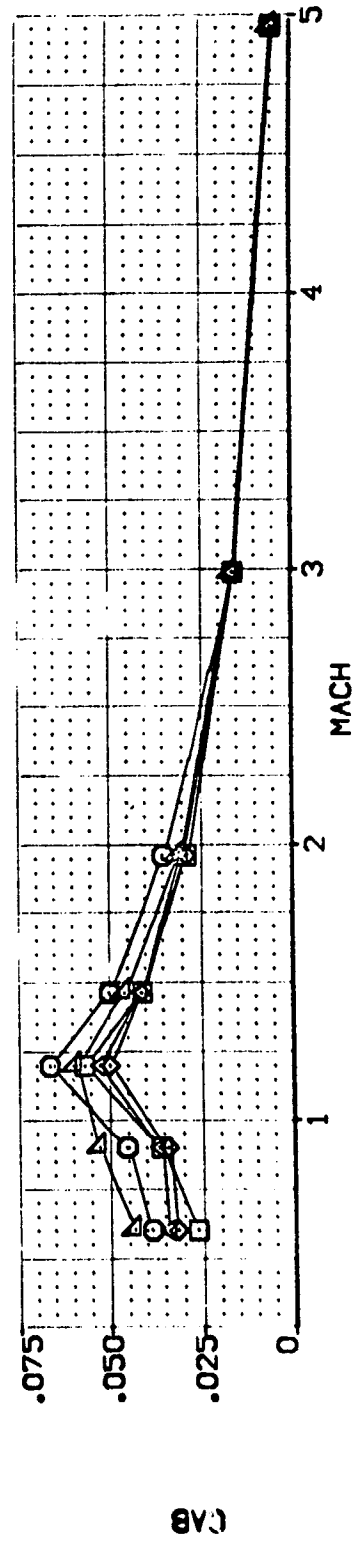
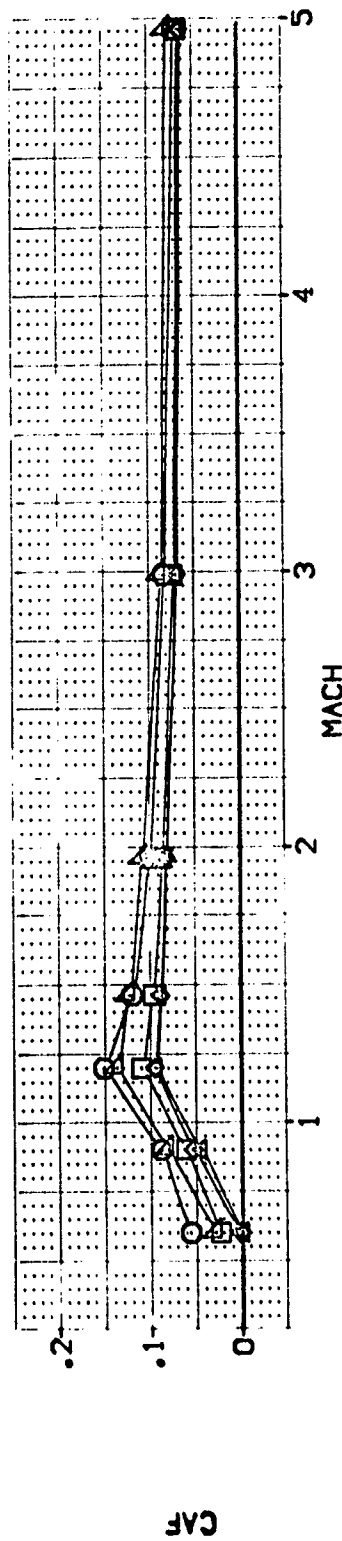
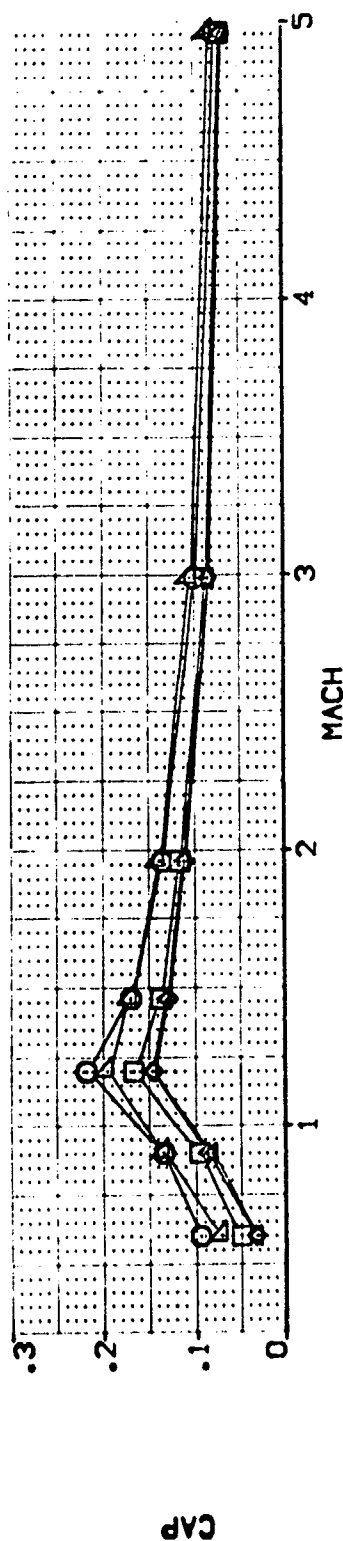
REFERENCE INFORMATION



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(CJALPHA = 10.00

	ELEVTR	BOFLAP	SFOBRK	AIRON	REFERENCE INFORMATION	SO. FT
	13.650	-11.700	23.550	-320	SREF	2741.8000
	15.550	-11.700	23.550	-400	LREF	481.6480
	-4.310	-11.700	23.550	-630	BREF	936.7000
	16.000	-11.700	23.550	-1.680	YHPB	1081.3900
	16.750	-11.700	23.550	-1.680	YHPB	1081.3900
					ZHPB	1081.3900
					ZHPB	1081.3900



INTERPOLATED ZERO ELEVON CHARACTERISTICS

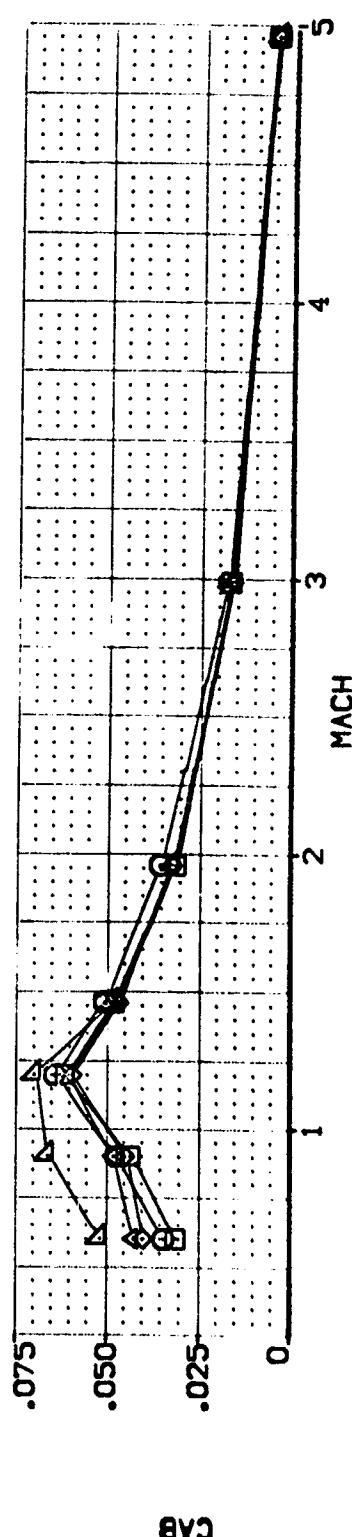
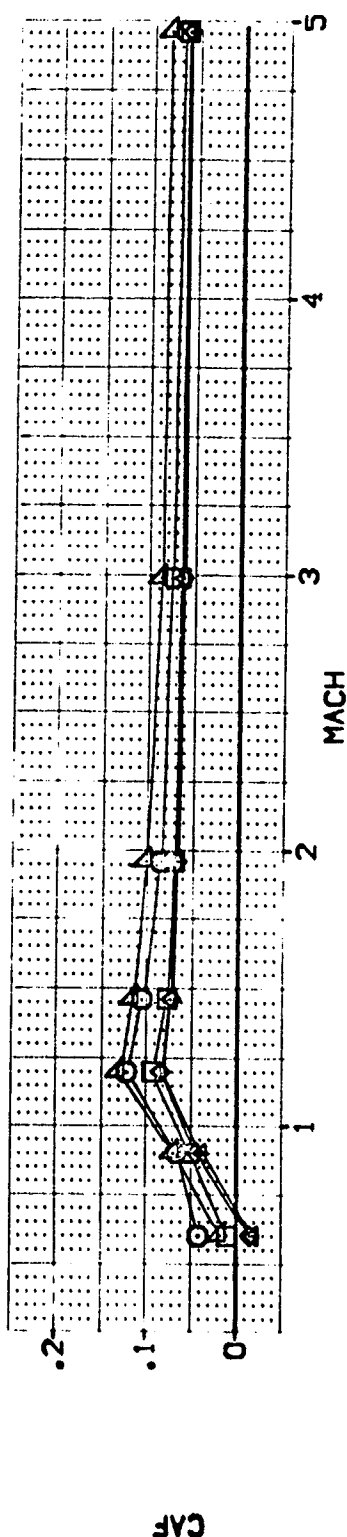
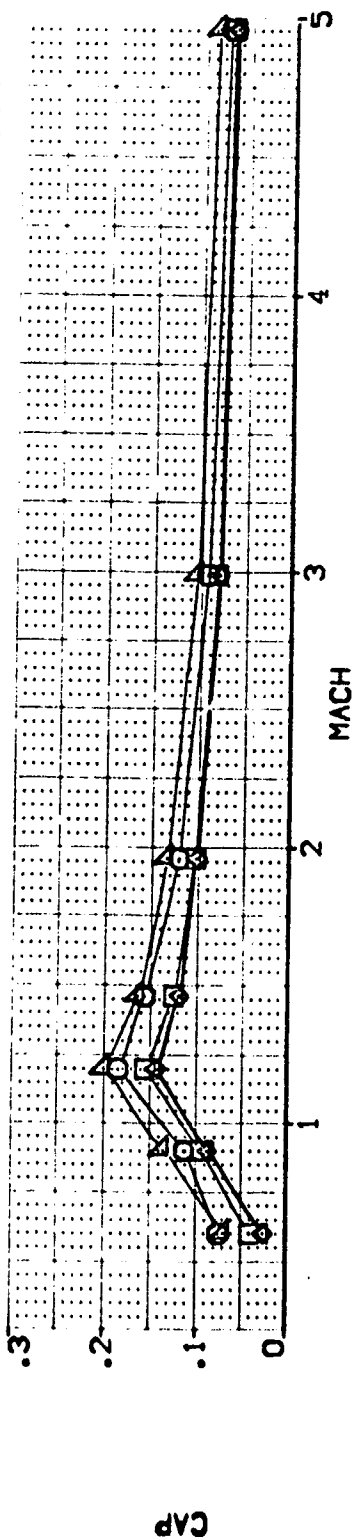
$$\cos \alpha = 15.00$$

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[632001]	MSFC	531	(0A49)	038	34-0	(BOTH)	(VE)(VR)
[632002]	MSFC	531	(0A49)	038	34-0	(BOTH)	(VE)(VR)
[632003]	MSFC	531	(0A49)	038	34-0	(BOTH)	(VE)(VR)
[632004]	MSFC	531	(0A49)	038	34-0	(BOTH)	(VE)(VR)
[632005]	MSFC	531	(0A49)	038	34-0	(BOTH)	(VE)(VR)

ELEVTR BDFLAP SPOBRK AILRON REFERENCE INFORMATION

-33.650	-11.700	25.550	-0.320	SREF	2741.8000	50. FT
-15.550	-11.700	25.550	-0.400	LREF	481.6480	IN.
-4.310	-11.700	25.550	-0.630	BREF	856.7000	IN.
16.790	-11.700	25.550	-1.680	YMRP	1081.3500	IN.
				ZMRP	.0000	IN.
				SCALE	.0040	



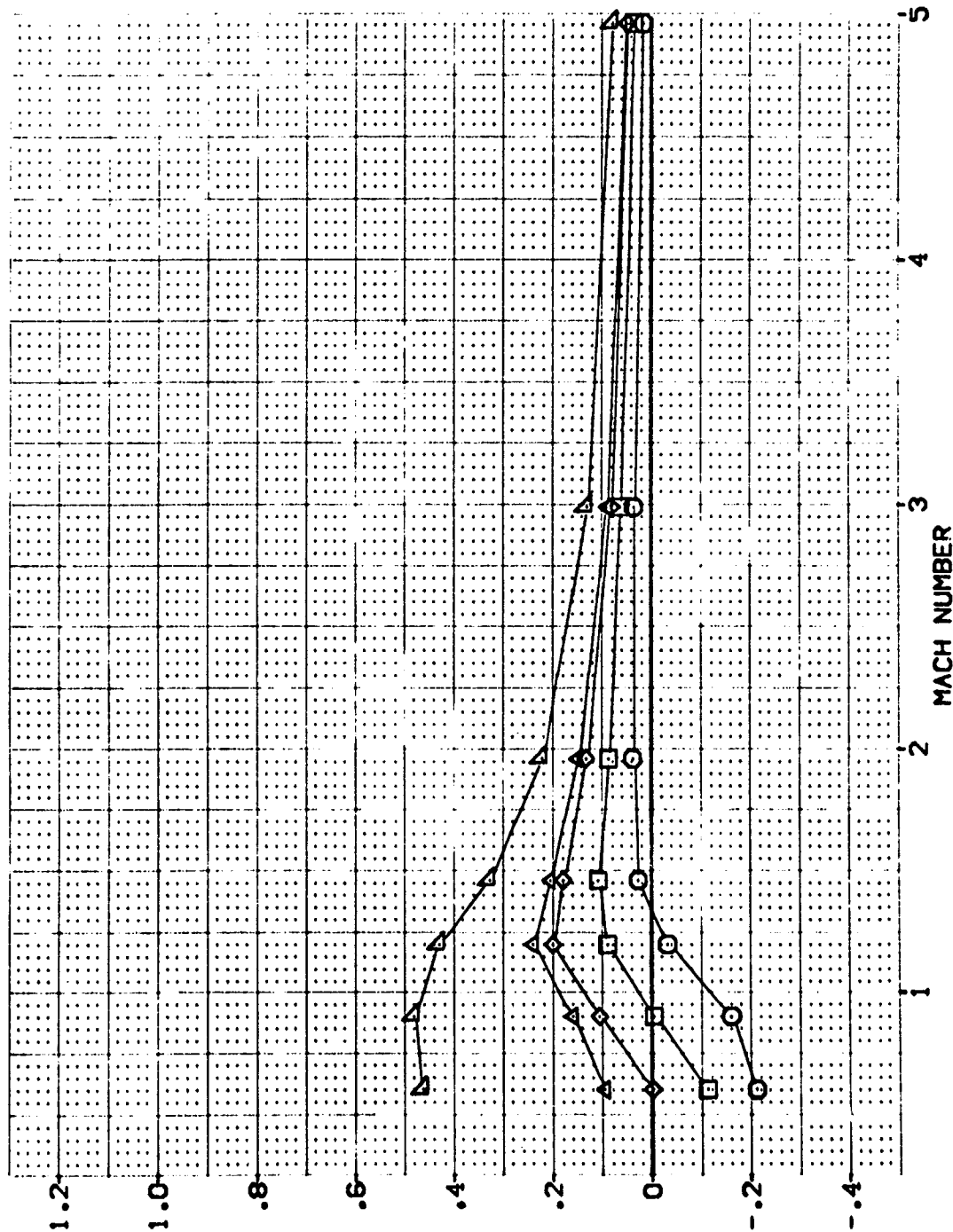
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)ALPHA = 20.00





DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILERON	REFERENCE INFORMATION
(652001)	MSFC 581(0A49) DB 3A-0 (BCH) (VE)(VR)	-33.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
(652002)	MSFC 581(0A49) DB 3A-0 (BCH) (VE)(VR)	-15.550	-11.700	22.550	-1.400	LREF 481.6480 IN.
(652003)	MSFC 581(0A49) DB 3A-0 (BCH) (VE)(VR)	-4.310	-11.700	22.550	-1.630	BREF 936.7000 IN.
(652004)	MSFC 581(0A49) DB 3A-0 (BCH) (VE)(VR)	16.750	-11.700	22.550	-1.680	XPRP 1081.3500 IN.
(652005)	MSFC 581(0A49) DB 3A-0 (BCH) (VE)(VR)			25.550		YPRP .0000 IN.
						ZPRP .0000 IN.
						SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION (NE)(VR) REFERENCE INFORMATION 50. FT

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	(NE)(VR)	SRF	LR	BR	YPR	ZPR	SCALE
(82001)	MSFC 581(CA45) DB 34-0 (80FM)	(NE)(VR)	2741.8000	-1.320	25.550	-11.700	25.550	.0040
(82002)	MSFC 581(CA45) DB 34-0 (80FM)	(NE)(VR)	481.6480	-1.400	25.550	-11.700	25.550	.0040
(82003)	MSFC 581(CA45) DB 34-0 (80FM)	(NE)(VR)	936.7000	-1.630	25.550	-11.700	25.550	.0040
(82004)	MSFC 581(CA45) DB 34-0 (80FM)	(NE)(VR)	1081.3900	-1.680	25.550	-11.700	25.550	.0040
(82005)	MSFC 581(CA45) DB 34-0 (80FM)	(NE)(VR)						

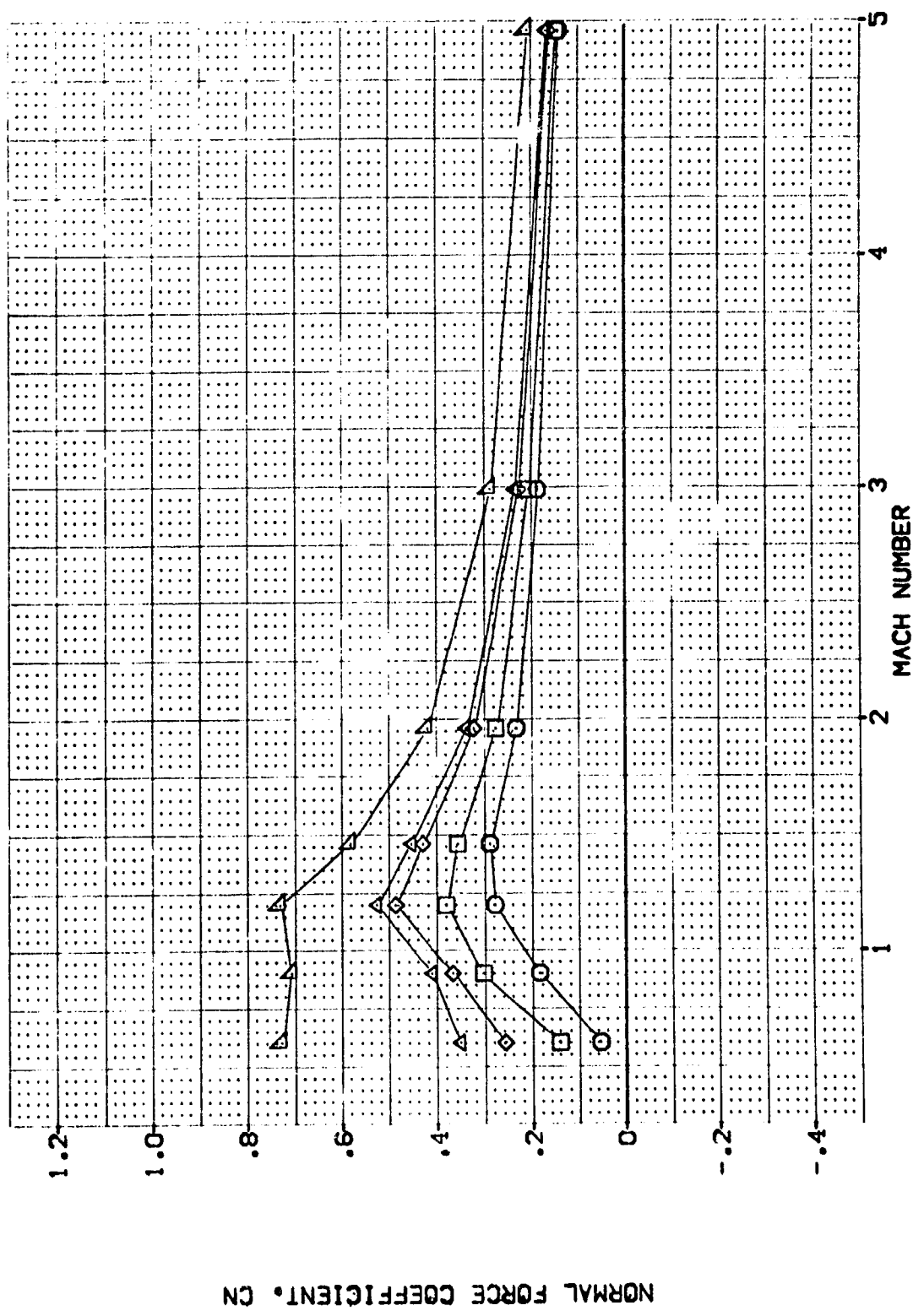
ELEVTR 80FLAP SPOBRK ALLRON

-30.650 -11.700 25.550 -1.320

-15.550 -11.700 25.550 -1.400

-4.310 -11.700 25.550 -1.630

16.790 -11.700 25.550 -1.680



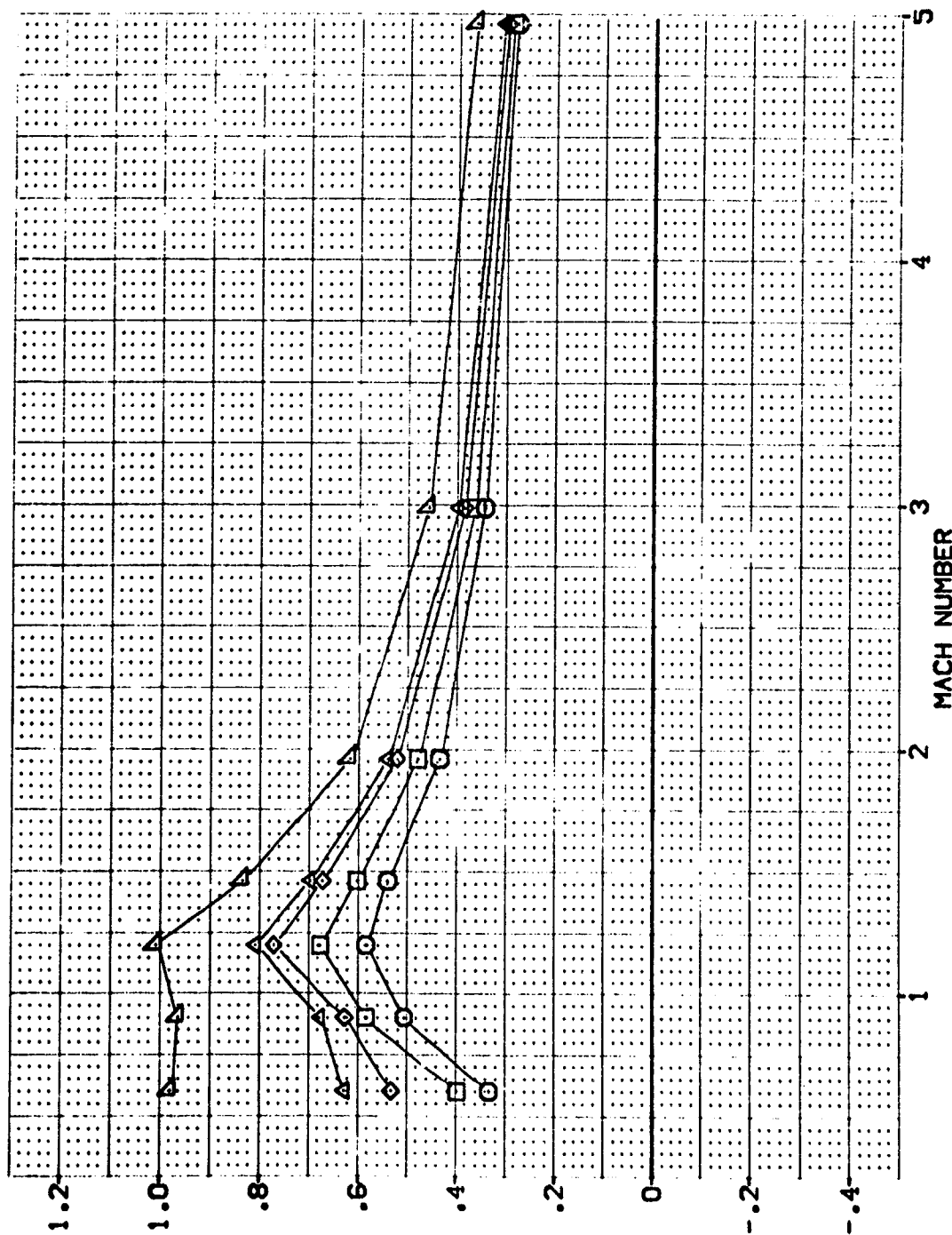
NORMAL FORCE COEFFICIENT, CN

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)ALPHA = 10.00

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION:
 (852001) H5FC 581(DA49) 0R8 34-0 (BOFH) (VE)(VR)
 (852002) H5FC 581(DA49) 0R8 34-0 (BOFH) (VE)(VR)
 (852003) H5FC 581(DA49) 0R8 34-0 (BOFH) (VE)(VR)
 (852004) H5FC 581(DA49) 0R8 34-0 (BOFH) (VE)(VR)
 (852005) H5FC 581(DA49) 0R8 34-0 (BOFH) (VE)(VR)

ELEVTR EBFAP SPOBRK AILRON REFERENCE INFORMATION SQ. FT
 -33.650 -11.700 25.550 -1.320 SREF 2741.6000
 -15.550 -11.700 25.550 -1.100 LREF 481.6480
 -4.310 -11.700 25.550 -0.630 BREF 936.7000
 16.750 -11.700 25.550 -1.680 XMRP 1081.3900
 YMRP .0000
 ZMRP .0000
 SCALE .0040



NORMAL FORCE COEFFICIENT, CN

MACH NUMBER

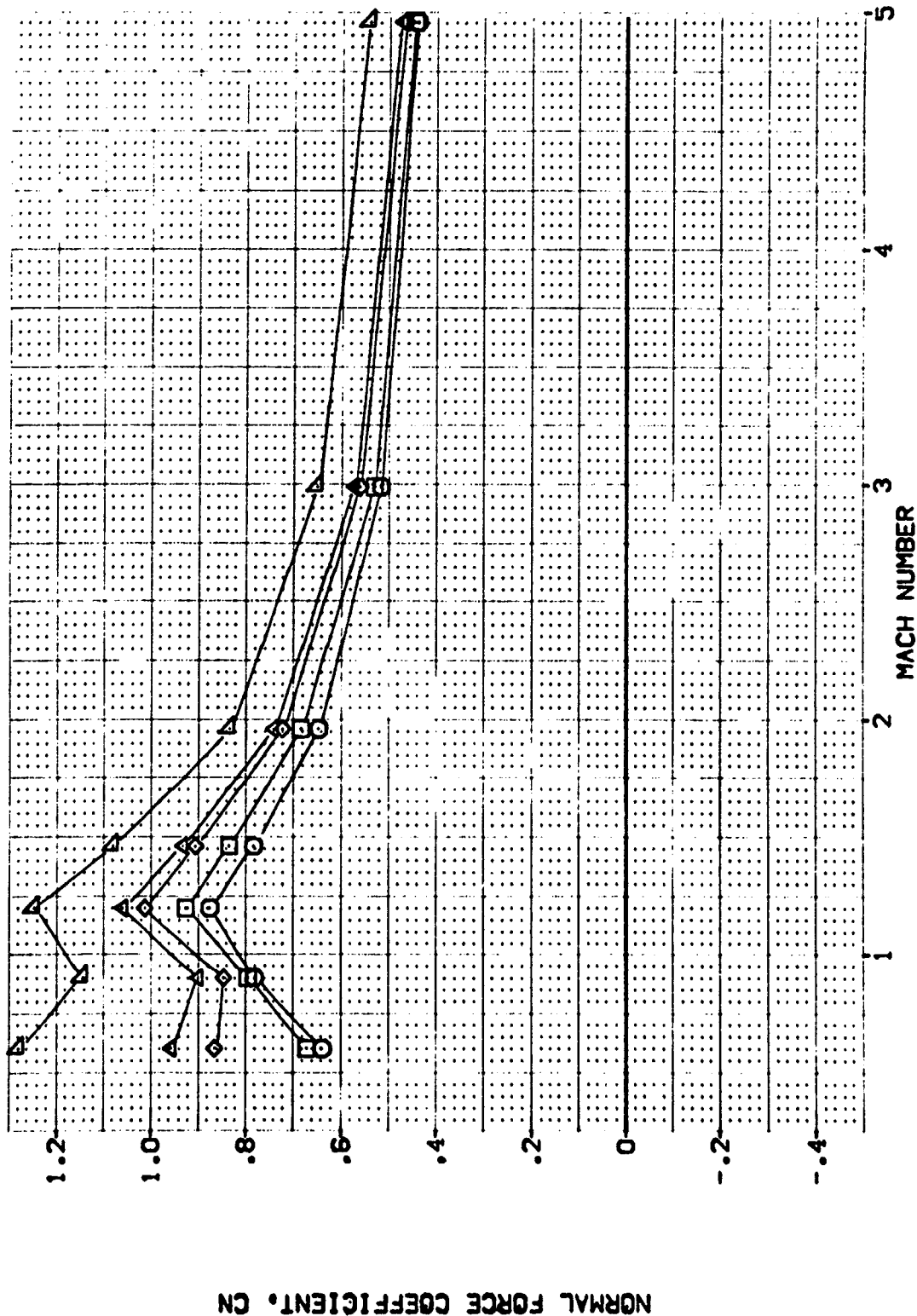
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(CO)ALPHA = 15.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDBRK	ALLRON	REFERENCE INFORMATION
[132001]	HSFC 531(DA19) DB 34-0 (BOFM) (VE)(VR)	-33.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
[132002]	HSFC 531(DA19) DB 34-0 (BOFM) (VE)(VR)	-15.550	-11.700	25.550	-1.400	LREF 481.6480 IN.
[132003]	HSFC 531(DA19) DB 34-0 (BOFM) (VE)(VR)	-4.310	-11.700	25.550	-1.630	BREF 936.7000 IN.
[132004]	HSFC 531(DA19) DB 34-0 (BOFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	XPRP 1081.3500 IN.
[132005]	HSFC 531(DA19) DB 34-0 (BOFM) (VE)(VR)					YPRP .0000 IN.
						ZPRP .0040 IN.
						SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS

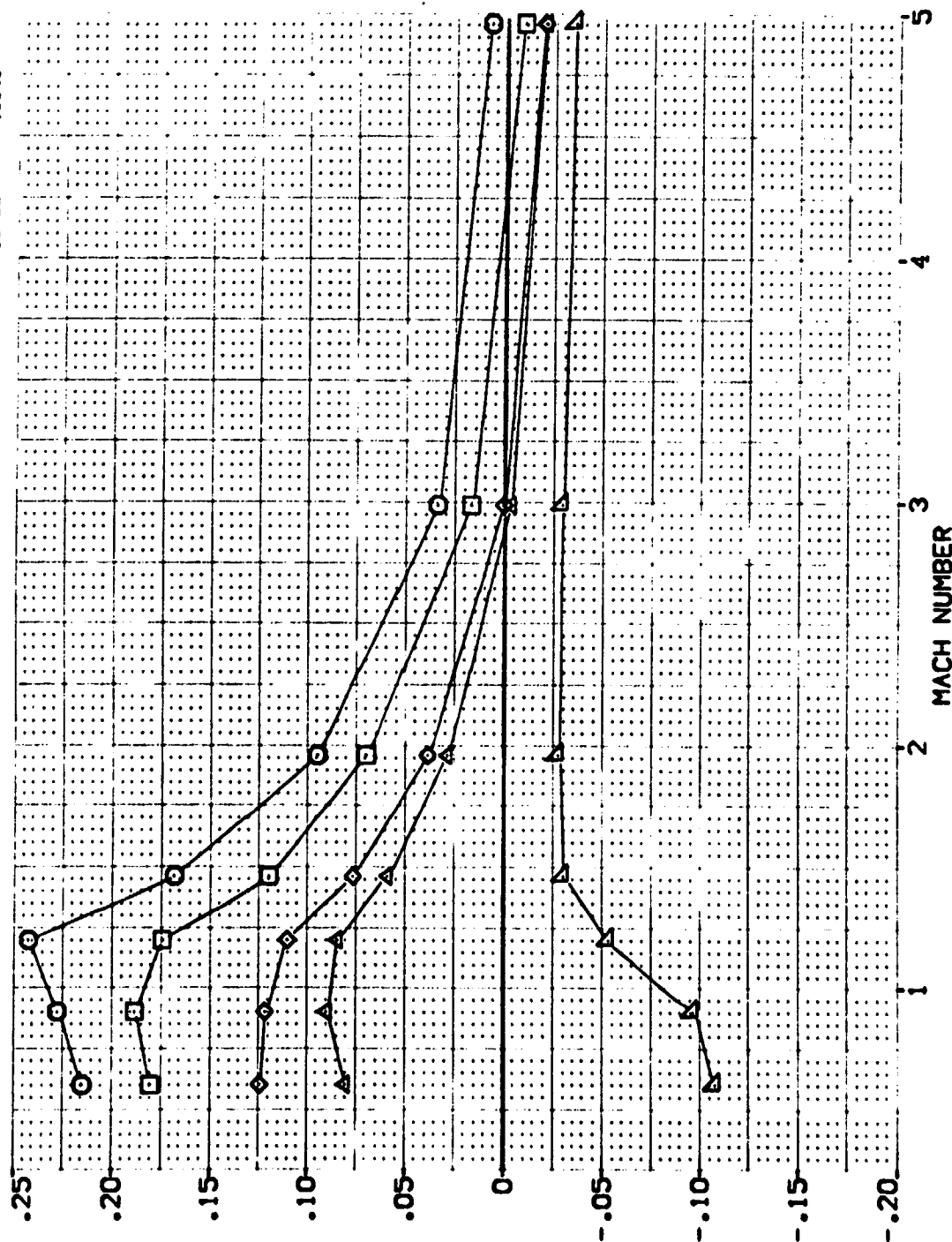
(EJALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (892001) HFC 501(OA9) DB 3A-0 (BOFM) (VE)(VR)
 (892002) HFC 501(OA9) DB 3A-0 (BOFM) (VE)(VR)
 (892003) HFC 501(OA9) DB 3A-0 (BOFM) (VE)(VR)
 (892004) HFC 501(OA9) DB 3A-0 (BOFM) (VE)(VR)
 (892005) HFC 501(OA9) DB 3A-0 (BOFM) (VE)(VR)

ELEVTR BDFLAP SPDBRK AILRON
 -22.550 -11.700 25.550 -1.320
 -15.550 -11.700 25.550 -1.400
 -4.310 -11.700 25.550 -1.630
 16.790 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0010

PITCHING MOMENT COEFFICIENT, CLM

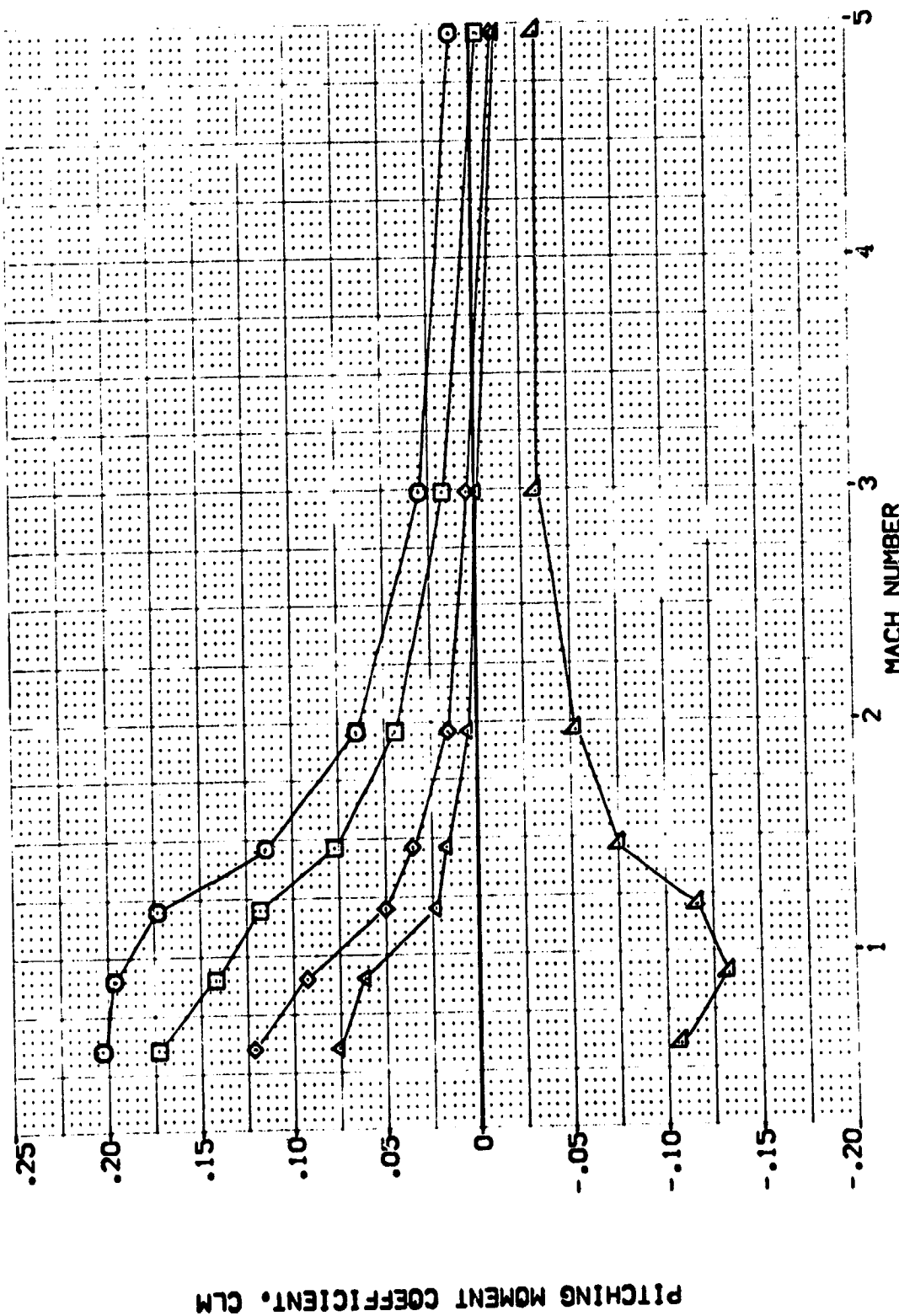


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(CA)ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDPLAP	SPDRBK	AILERON	REFERENCE INFORMATION
(B2001)	H5FC 501 (DA49) DBB 34-0 (BDTH) (VE)(VR)	-33.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
(B2002)	H5FC 501 (DA49) DBB 34-0 (BDTH) (VE)(VR)	-15.550	-11.700	25.550	-4.100	LREF 481.6480 IN.
(B2003)	H5FC 501 (DA49) DBB 34-0 (BDTH) (VE)(VR)	-4.310	-11.700	25.550	-6.300	BREF 936.7000 IN.
(B2004)	H5FC 501 (DA49) DBB 34-0 (BDTH) (VE)(VR)	0.000	-11.700	25.550	-1.880	XREF 1081.3900 IN.
(B2005)	H5FC 501 (DA49) DBB 34-0 (BDTH) (VE)(VR)	16.750	-11.700	25.550	-1.880	YREF 0.0000 IN.
						ZREF 0.0000 IN.
						SCALE .0010



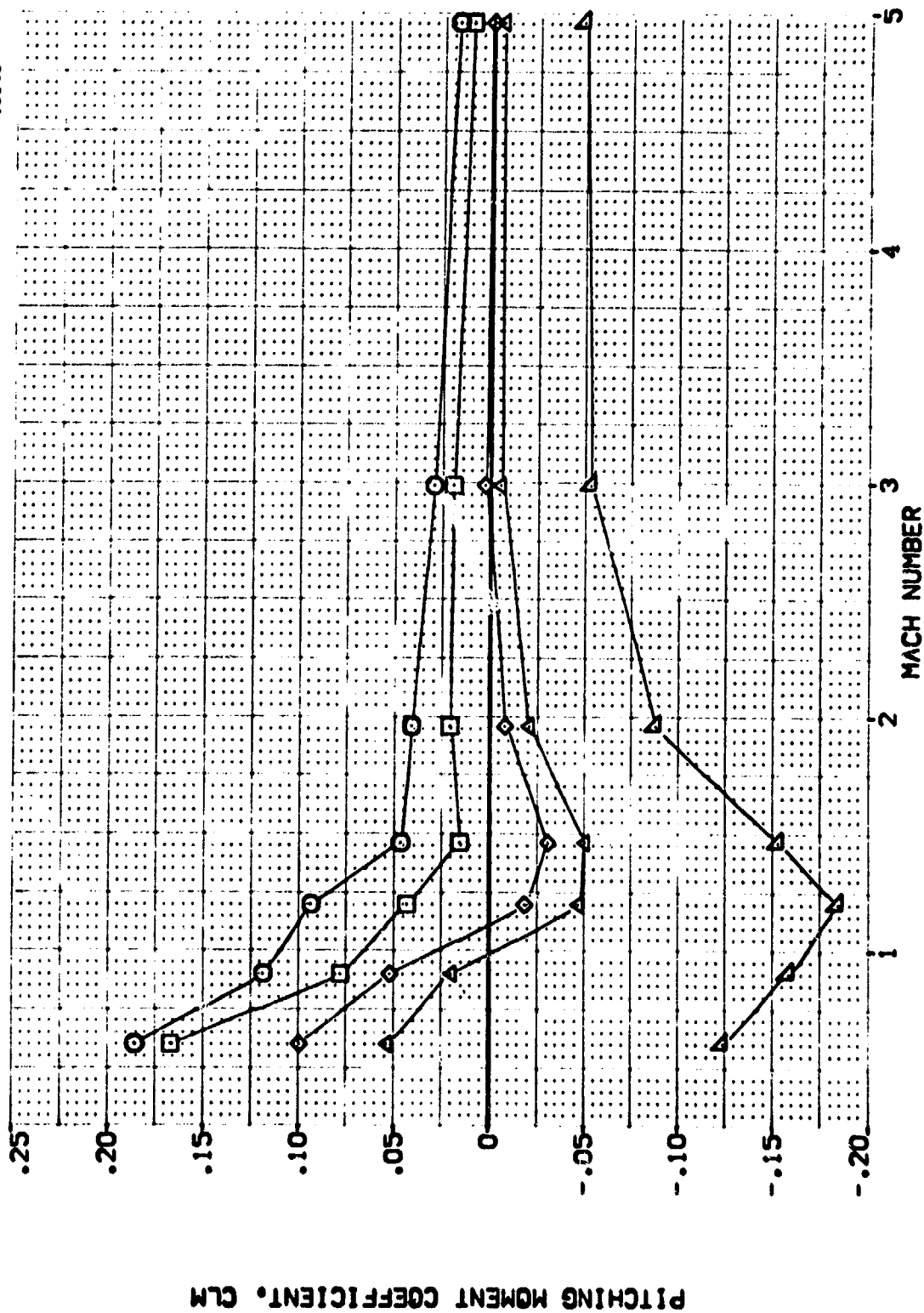
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (P22001) HFC 501(0A49) 000 3A-0 (BCH) (VE)(VR)
 (P22002) HFC 501(0A49) 000 3A-0 (BCH) (VE)(VR)
 (P22003) HFC 501(0A49) 000 3A-0 (BCH) (VE)(VR)
 (P22004) HFC 501(0A49) 000 3A-0 (BCH) (VE)(VR)
 (P22005) HFC 501(0A49) 000 3A-0 (BCH) (VE)(VR)

ELEVTR BOFLAP SPOBRK AILRON
 -23.650 -11.700 25.550 -1.300
 -15.550 -11.700 23.550 -1.400
 -4.310 -11.700 23.550 -1.600
 16.750 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XPRP 1081.3900 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



PITCHING MOMENT COEFFICIENT, C_M

INTERPOLATED ZERO ELEVON CHARACTERISTICS

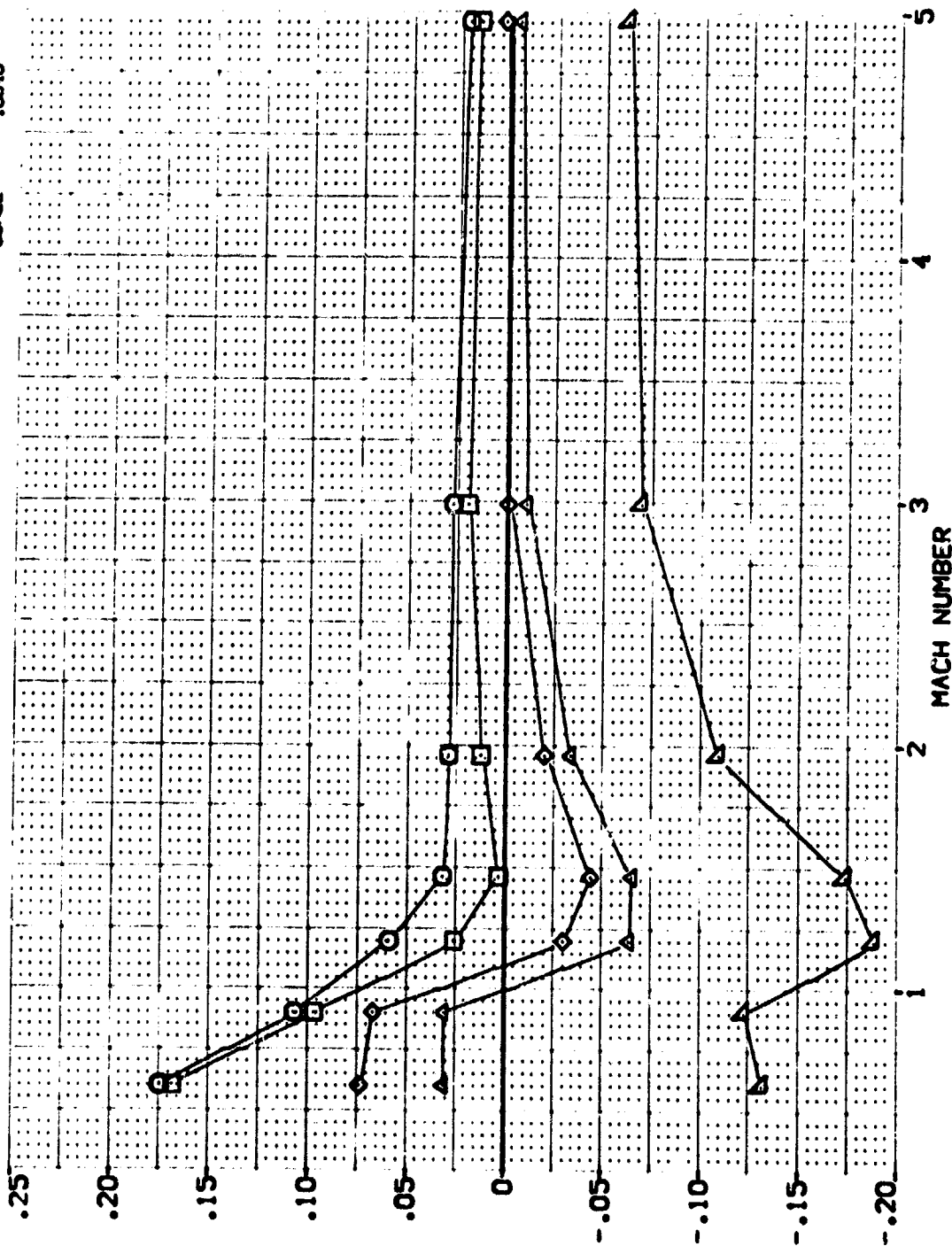
(C) ALPHA = 15.00

DATA SET SHEET
(E30001)
(E30002)
(E30003)
(E30004)
(E30005)

CONFIGURATION DESCRIPTION
HSE 501(OAS) DB 34-0 (BDH) (VE)(VR)
HSE 501(OAS) DB 34-0 (BDH) (VE)(VR)
HSE 501(OAS) DB 34-0 (BDH) (VE)(VR)
HSE 501(OAS) DB 34-0 (BDH) (VE)(VR)
HSE 501(OAS) DB 34-0 (BDH) (VE)(VR)

ELEVTR EOLAP SPOBRK AILRON
-30.650 -11.700 25.550 -1.320
-15.550 -11.700 25.550 -1.400
-4.310 -11.700 25.550 -1.630
16.750 -11.700 25.550 -1.680

REFERENCE INFORMATION
SREF 2741.8000 50. FT
LREF 481.6480 IN.
BREF 935.7000 IN.
XREF 1081.3500 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0040



PITCHING MOMENT COEFFICIENT, CLM

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)ALPHA = 20.00



DATA SET SYMBOL: 1822001 1822002 1822003 1822004 1822005

CONFIGURATION DESCRIPTION: HSC 581 (0A19) DB 34-0 (BDH) (VE) (VR) HSC 581 (0A19) DB 34-0 (BDH) (VE) (VR) HSC 581 (0A19) DB 34-0 (BDH) (VE) (VR) HSC 581 (0A19) DB 34-0 (BDH) (VE) (VR) HSC 581 (0A19) DB 34-0 (BDH) (VE) (VR)

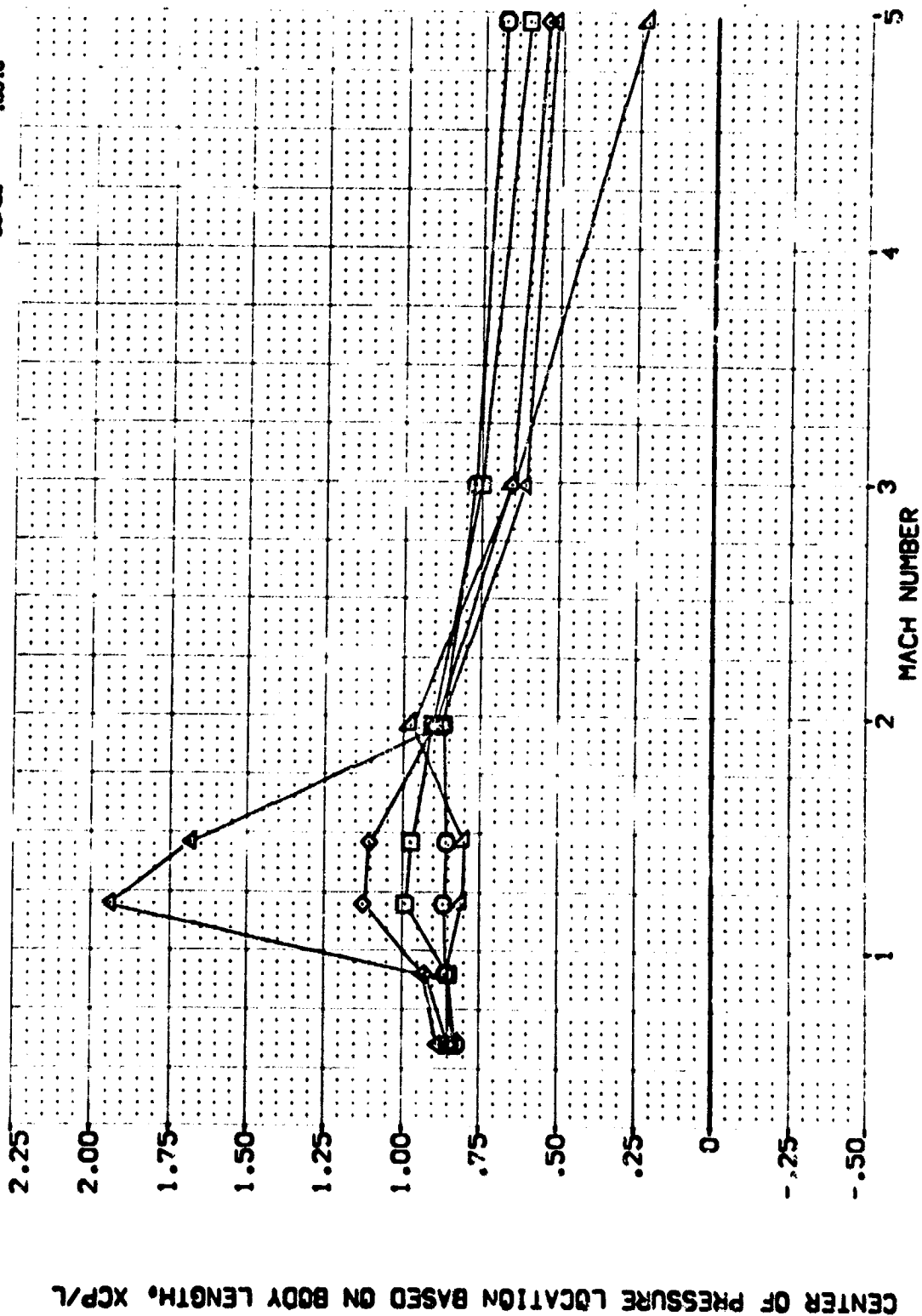
ELEVTR: -20.650 -15.550 -4.310 16.750

BDPLAP: -11.700 -11.700 -11.700 -11.700

SPDRBK: 25.550 25.550 25.550 25.550

AILRON: -1.300 -1.400 -1.630 -1.880

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 526.7000 IN. XREF 1081.3900 IN. YREF .0000 IN. ZREF .0000 IN. SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(A) ALPHA = .00

DATA SET SYMBOL

[692001]
[692002]
[692003]
[692004]
[692005]

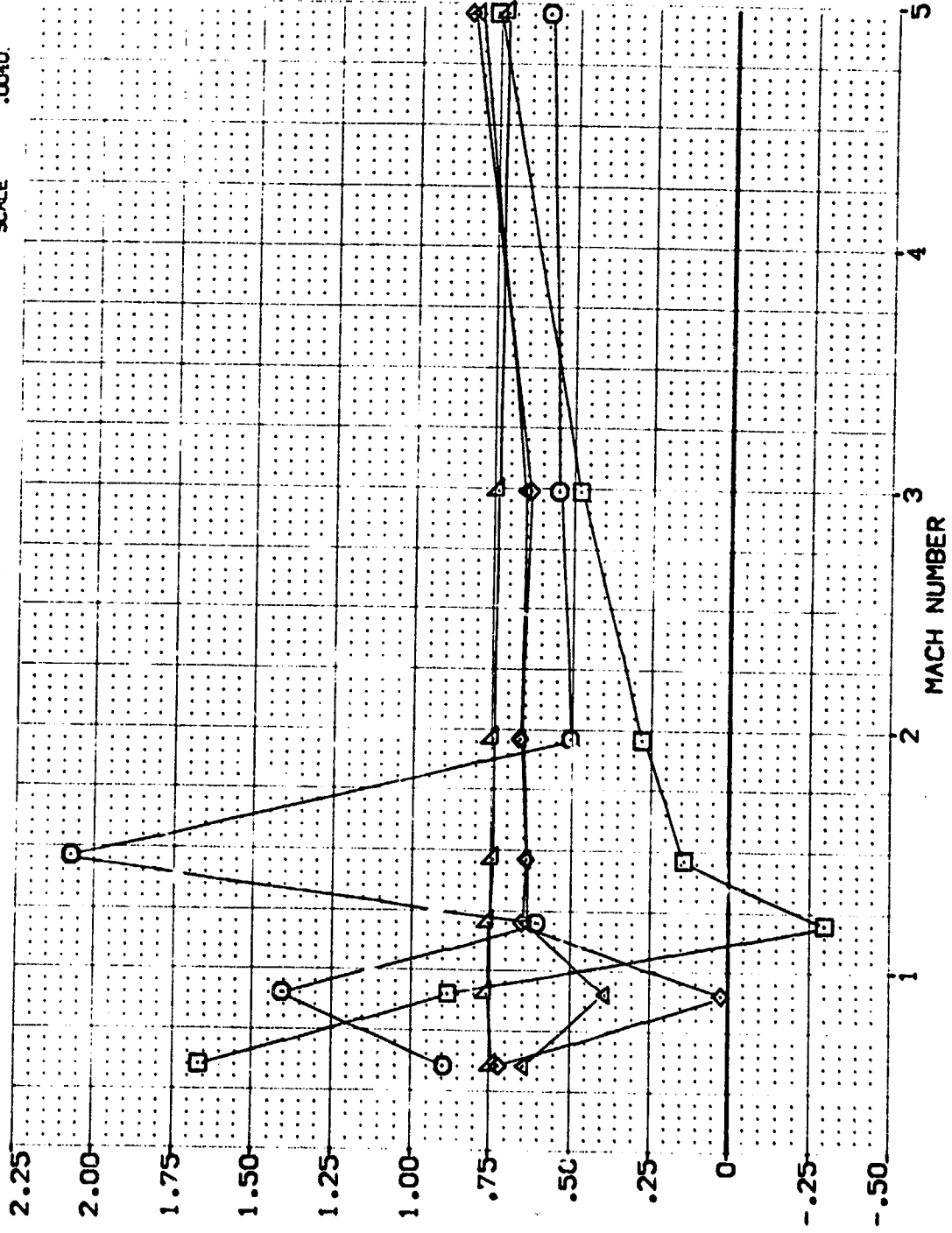
CONFIGURATION DESCRIPTION

MFC 591(0A49) DB 34-0 (BCFM) (VE)(VR)
MFC 591(0A49) DB 34-0 (BCFM) (VE)(VR)
MFC 591(0A49) DB 34-0 (BCFM) (VE)(VR)
MFC 591(0A49) DB 34-0 (BCFM) (VE)(VR)
MFC 591(0A49) DB 34-0 (BCFM) (VE)(VR)

ELEVTR 80FLAP 5PDBRK AILRON
-33.650 -11.700 23.550 -1.320
-15.550 -11.700 23.550 -1.400
-4.310 -11.700 23.550 -1.600
16.790 -11.700 23.550 -1.880

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XPRP 1081.3500 IN.
YPRP .0000 IN.
ZPRP .0000 IN.
SCALE .0040

CENTER OF PRESSURE LOCATION BASED ON BODY LENGTH, XCP/L



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)ALPHA = 5.00



DATA SET SYMBL. CONFIGURATION DESCRIPTION

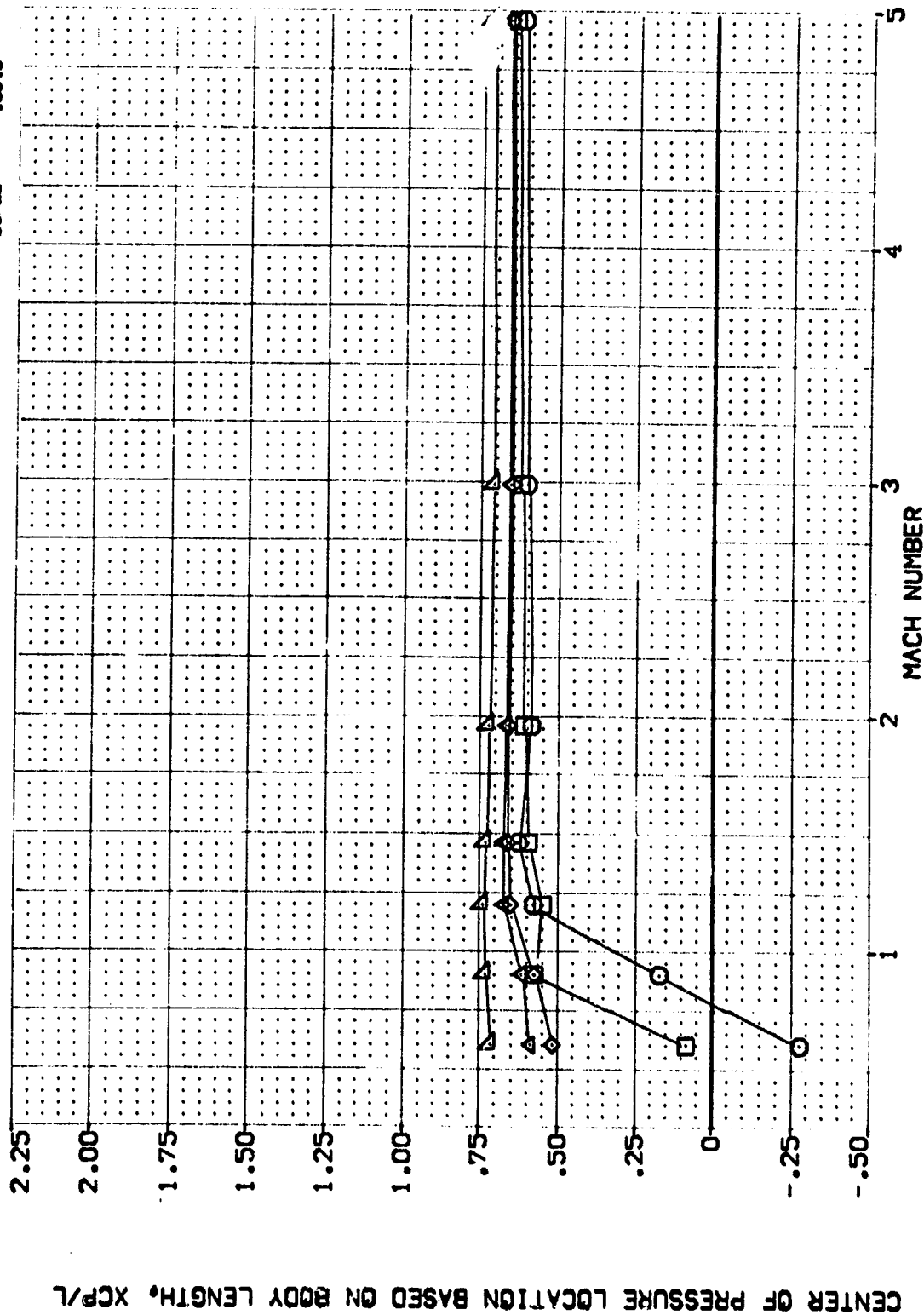
SYMBL	DESCRIPTION	VEJ(VR)
[892001]	MSFC 581(0A49) DRB 34-0 (BOTH)	[VEJ(VR)]
[892002]	MSFC 581(0A49) DRB 34-0 (BOTH)	[VEJ(VR)]
[892003]	MSFC 581(0A49) DRB 34-0 (BOTH)	[VEJ(VR)]
[892004]	MSFC 581(0A49) DRB 34-0 (BOTH)	[VEJ(VR)]
[892005]	MSFC 581(0A49) DRB 34-0 (BOTH)	[VEJ(VR)]

ELEVTR BOFLAP SPOBRK AILRON

ELEVTR	BOFLAP	SPOBRK	AILRON
-33.650	-11.700	25.550	-320
-15.550	-11.700	25.550	-400
-4.310	-11.700	25.550	-630
16.750	-11.700	25.550	-1.680

REFERENCE INFORMATION

SRF	2741.8000	50. FT
LRF	481.6480	IN.
BRF	536.7000	IN.
YMRP	1081.3500	IN.
ZMRP	.0000	IN.
SCALE	.0040	



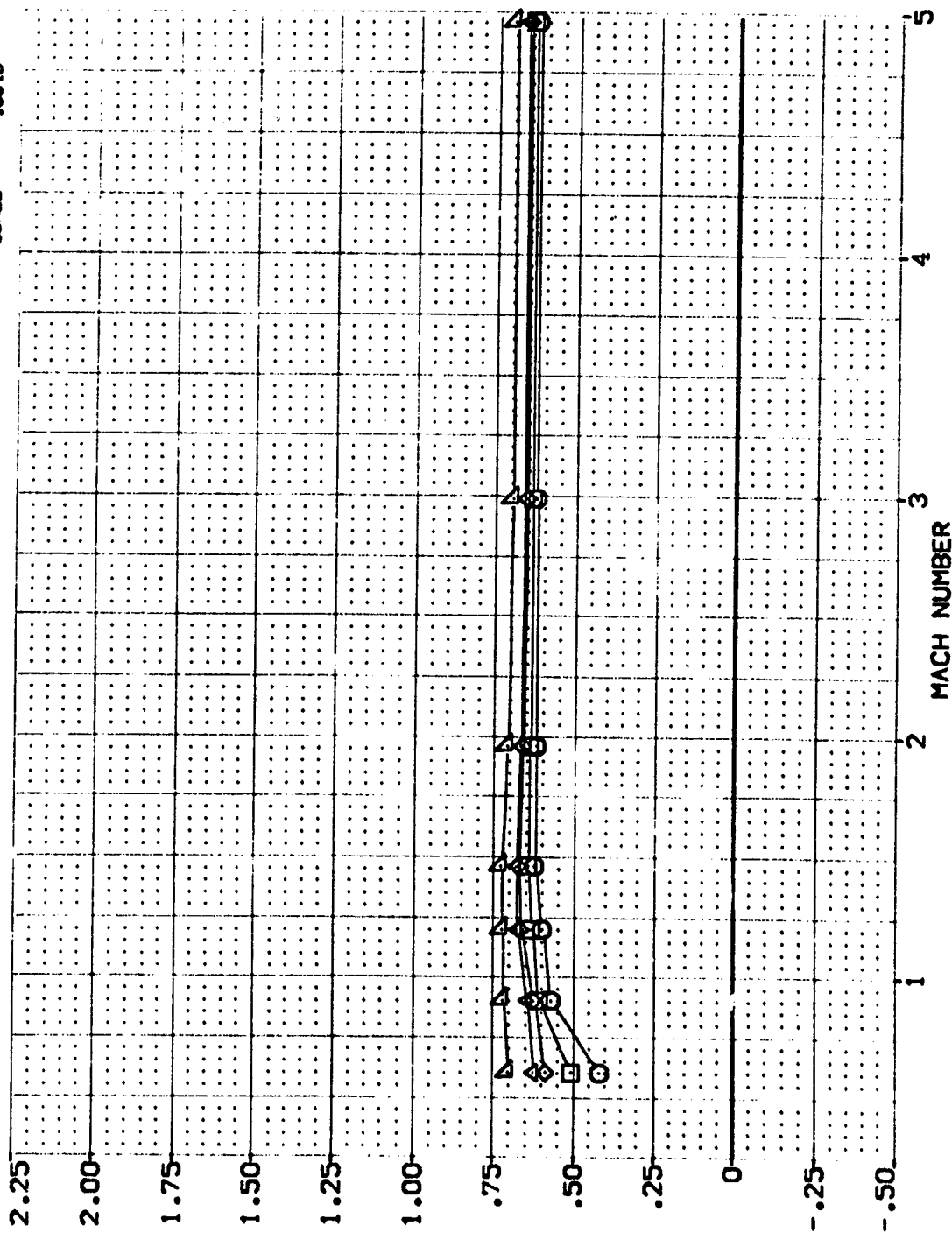
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(CJ)ALPHA = 10.00



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(D)ALPHA = 15.00



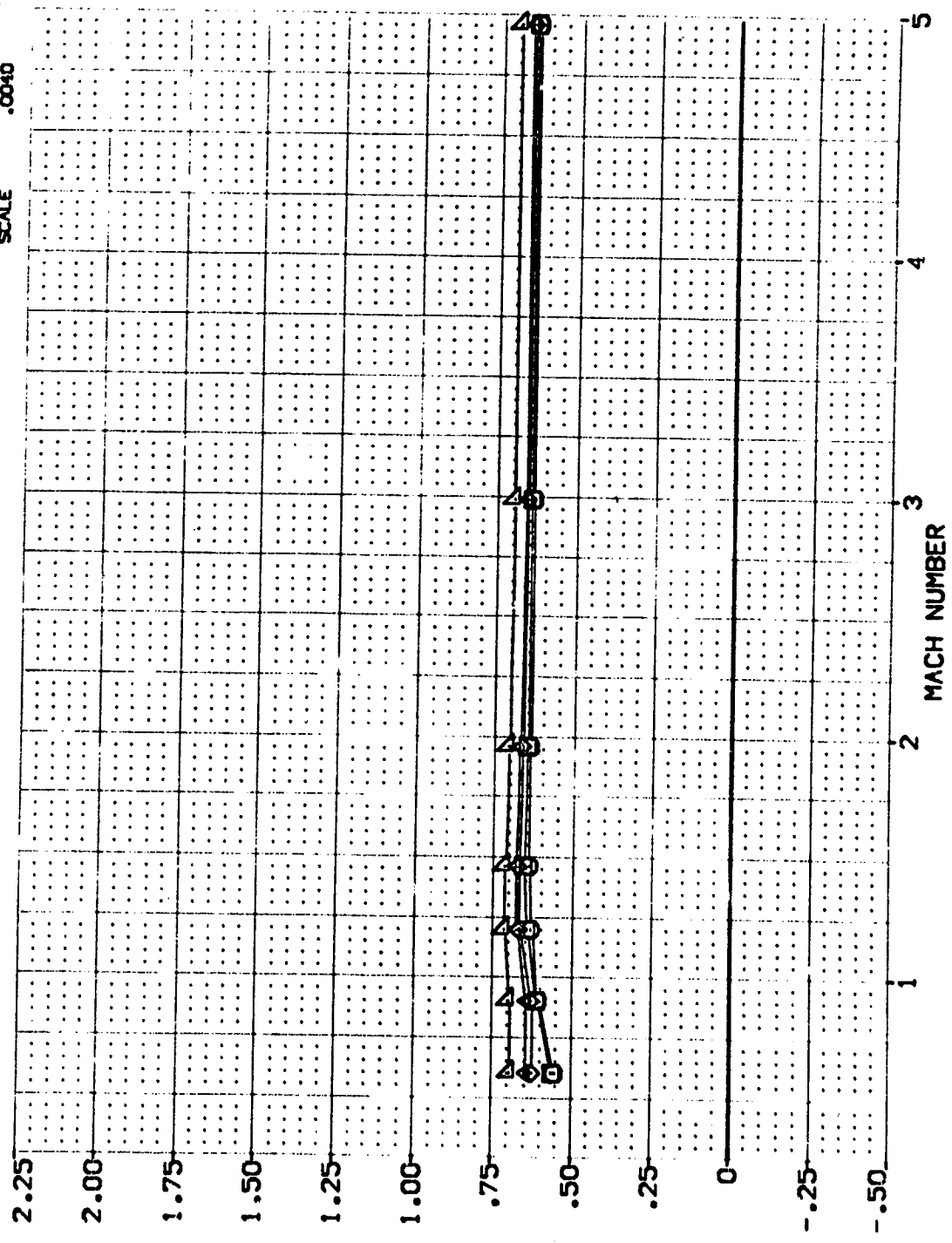
CENTER OF PRESSURE LOCATION BASED ON BODY LENGTH, XCP/L

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILTRON	REFERENCE INFORMATION
(892001)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	-39.650	-11.700	25.550	-0.300	SREF 2741.8000 SQ. FT
(892002)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-0.400	LREF 481.6480 IN.
(892003)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-0.630	BREF 936.7000 IN.
(892004)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	-1.000	-11.700	25.550	-1.000	XTRP 1081.3900 IN.
(892005)	MSFC 581(DA49) DRB 34-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZTRP .0000 IN.
						SCALE .0040

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AIRLON	REFERENCE INFORMATION
(822001)	MSC 581(DA49) CRB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(822002)	MSC 581(DA49) CRB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	22.550	-400	LREF 481.6480 IN.
(822003)	MSC 581(DA49) CRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	22.550	-630	BREF 936.7000 IN.
(822004)	MSC 581(DA49) CRB 34-0 (BCFM) (VE)(VR)	.000	-11.700	22.550	-1.680	XARP 1081.3900 IN.
(822005)	MSC 581(DA49) CRB 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	YARP .0000 IN.
						ZARP .0040 IN.
						SCALE

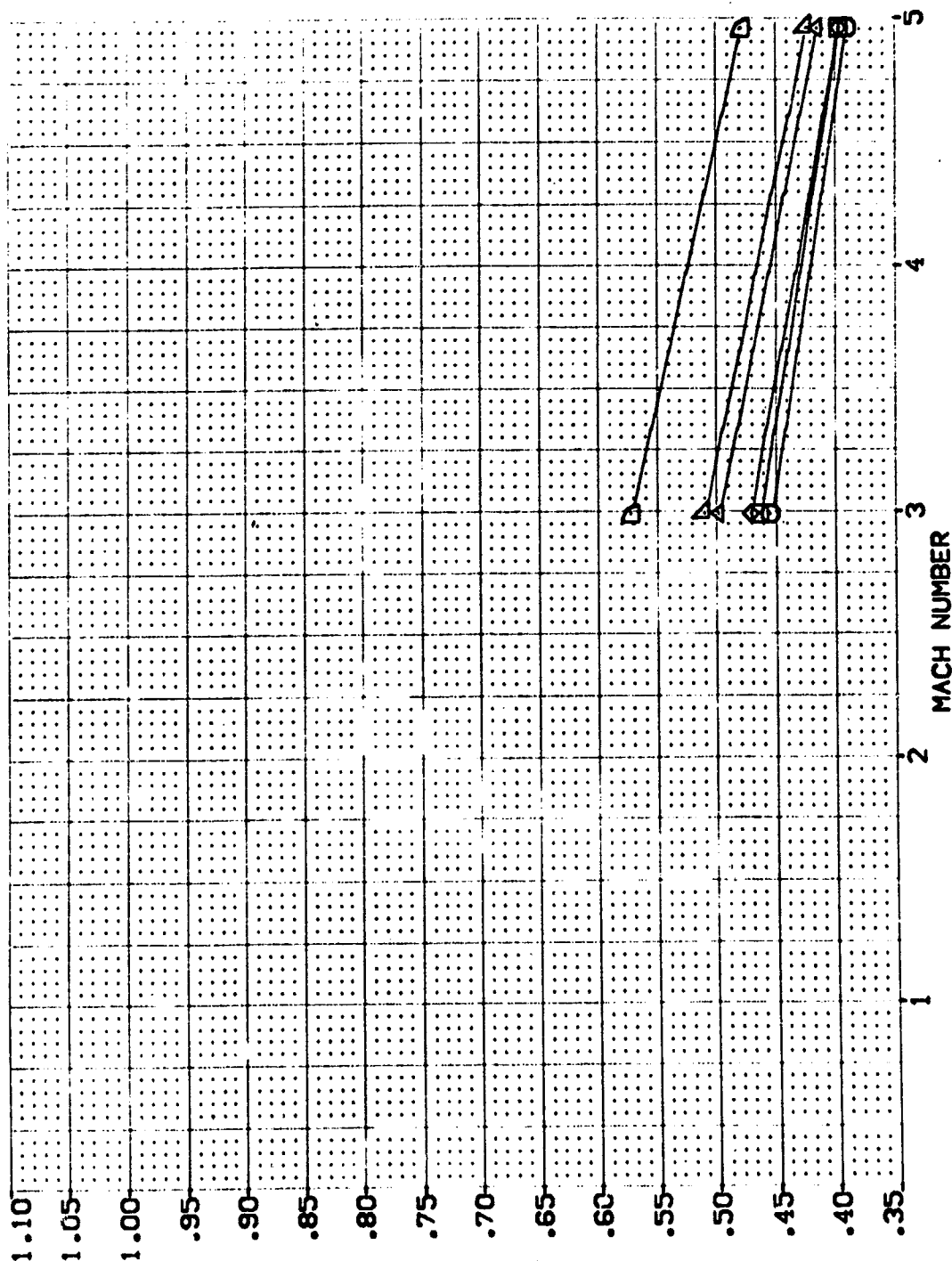
CENTER OF PRESSURE LOCATION BASED ON BODY LENGTH, XCP/L



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)ALPHA = 20.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPOBRK	AILTRON	REFERENCE INFORMATION	SO. FT
[832A01]	HSFC 581(DA49) CR3 34-0 (BCH) (VE)(VR)	-29.650	-11.700	25.550	-0.320	SREF 2741.8000	IN.
[832A02]	HSFC 581(DA49) CR3 34-0 (BCH) (VE)(VR)	-23.840	-11.700	25.550	-0.240	LREF 481.6480	IN.
[832A03]	HSFC 581(DA49) CR3 34-0 (BCH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000	IN.
[832A04]	HSFC 581(DA49) CR3 34-0 (BCH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP 1081.3900	IN.
[832A05]	HSFC 581(DA49) CR3 34-0 (BCH) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZMRP 0000.0000	IN.



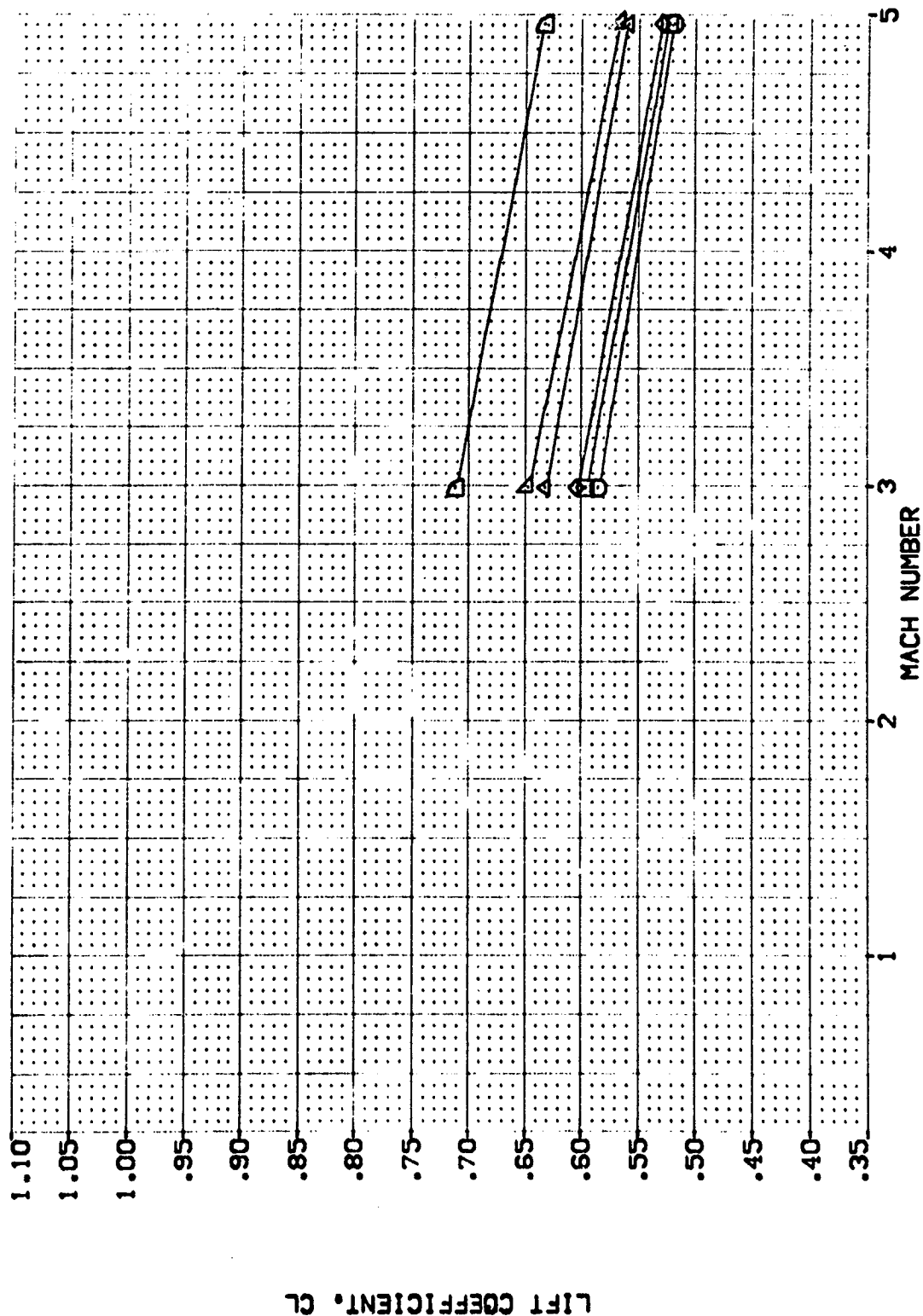
LIFT COEFFICIENT, CL

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(ALPHA = 20.00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION	SO. FT
(952A01)	HSFC 581(OA49) 088 34-0 (BOFM) (VE)(VR)	-39.650	-11.700	25.550	-320	SREF 2741.8000	IN:
(952A02)	HSFC 581(OA49) 088 34-0 (BOFM) (VE)(VR)	-22.840	-11.700	22.550	-240	LREF 481.6480	IN:
(952A03)	HSFC 581(OA49) 088 34-0 (BOFM) (VE)(VR)	-15.550	-11.700	22.550	-400	BREF 936.7000	IN:
(952A04)	HSFC 581(OA49) 088 34-0 (BOFM) (VE)(VR)	-4.310	-11.700	22.550	-630	XPRP 1081.3900	IN:
(952A05)	HSFC 581(OA49) 088 34-0 (BOFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	YPRP .0000	IN:
						ZPRP .0040	IN:
						SCALE	



INTERPOLATED ZERO ELEVON CHARACTERISTICS

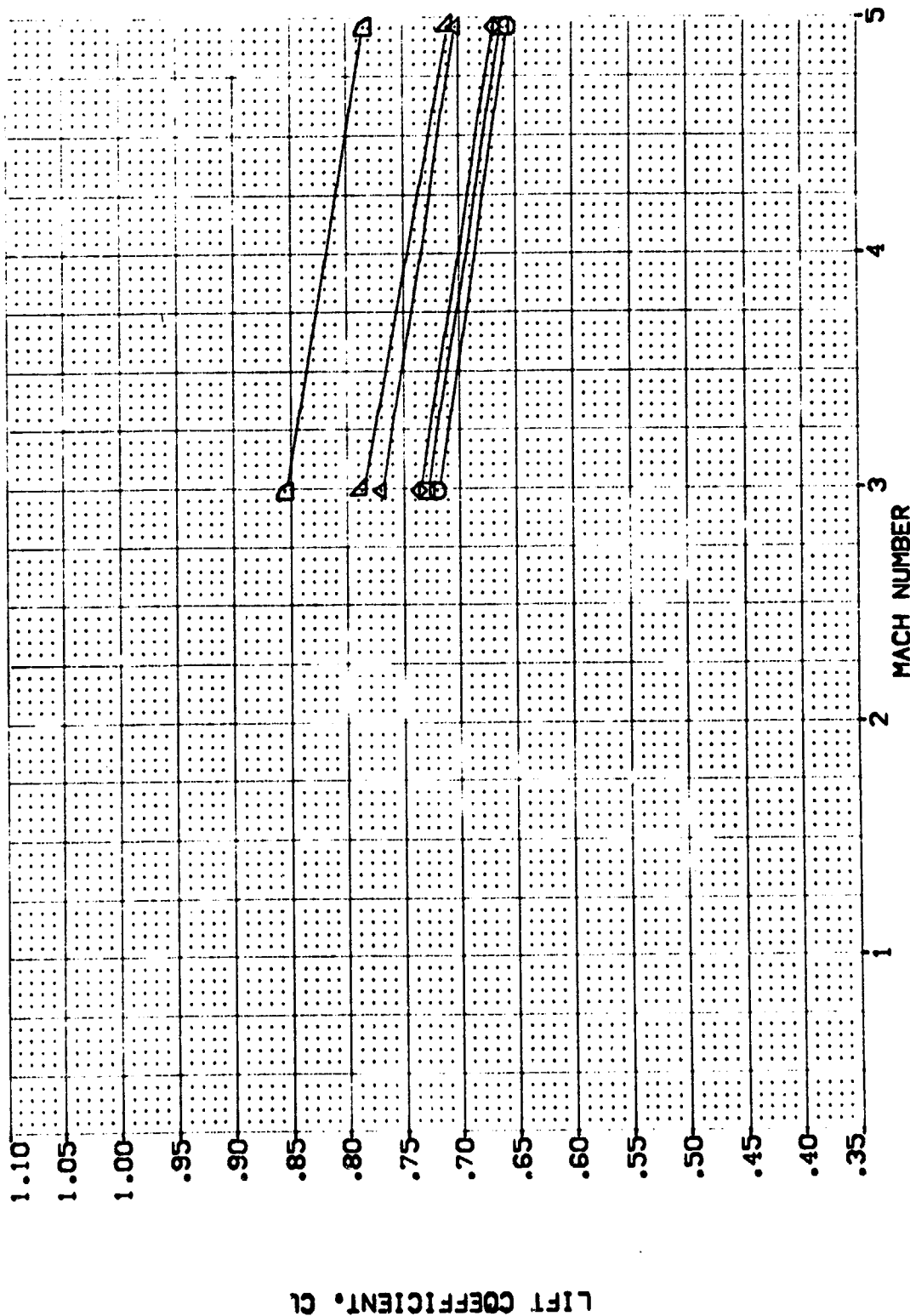
(B) ALPHA = 25.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[892A01]	PGC 581 (0A49) 000 34-0 (BDTH) (VE) (VR)
[891117]	PGC 581 (0A49) 000 34-0 (BDTH) (VE) (VR)
[892A02]	PGC 581 (0A49) 000 34-0 (BDTH) (VE) (VR)
[892A03]	PGC 581 (0A49) 000 34-0 (BDTH) (VE) (VR)
[892A04]	PGC 581 (0A49) 000 34-0 (BDTH) (VE) (VR)
[892A05]	PGC 581 (0A49) 000 34-0 (BDTH) (VE) (VR)

ELEVTR BOFLAP SPOBRK AIRRON REFERENCE INFORMATION

-33.650	-11.700	25.550	SREF	2741.8000	50. FT
-23.840	-11.700	25.550	LREF	481.6480	IN.
-15.550	-11.700	25.550	BREF	936.7000	IN.
-4.310	-11.700	25.550	XMRP	1081.3900	IN.
16.750	-11.700	25.550	YMRP	.0000	IN.
			ZMRP	.0000	IN.
			SCALE	.0040	



INTERPOLATED ZERO ELEVON CHARACTERISTICS

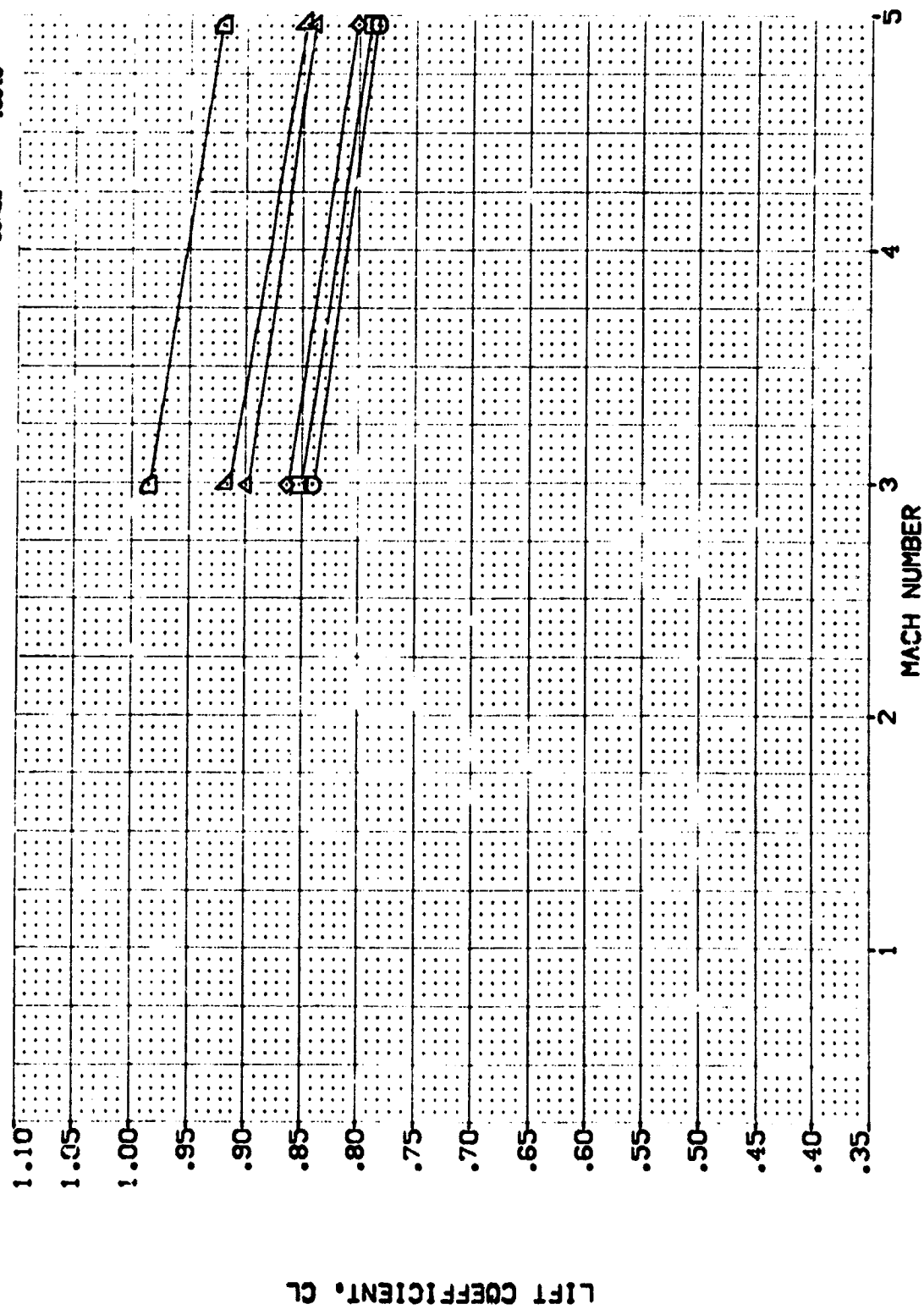
(C) ALPHA = 30.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(852A01) MSC S01(DA9) 088 34-0 (BOFM) (VE)(VR)
 (852A17) MSC S01(DA9) 088 34-0 (BOFM) (VE)(VR)
 (852A02) MSC S01(DA9) 088 34-0 (BOFM) (VE)(VR)
 (852A03) MSC S01(DA9) 088 34-0 (BOFM) (VE)(VR)
 (852A04) MSC S01(DA9) 088 34-0 (BOFM) (VE)(VR)
 (852A05) MSC S01(DA9) 088 34-0 (BOFM) (VE)(VR)

ELEVTR 80FLAP SPOBRK AILRON REFERENCE INFORMATION
 -33.650 -11.700 23.550 -270 SREF 2741.8000 SQ. FT
 -23.840 -11.700 23.550 -240 LREF 481.6480 IN.
 -15.550 -11.700 23.550 -400 BREF 936.7000 IN.
 -4.310 -11.700 23.550 -630 XREF 1081.3900 IN.
 16.790 -11.700 23.550 -000 YREF 0.000 IN.
 16.790 -11.700 23.550 -000 ZREF 0.000 IN.
 16.790 -11.700 23.550 -000 SCALE 0.0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

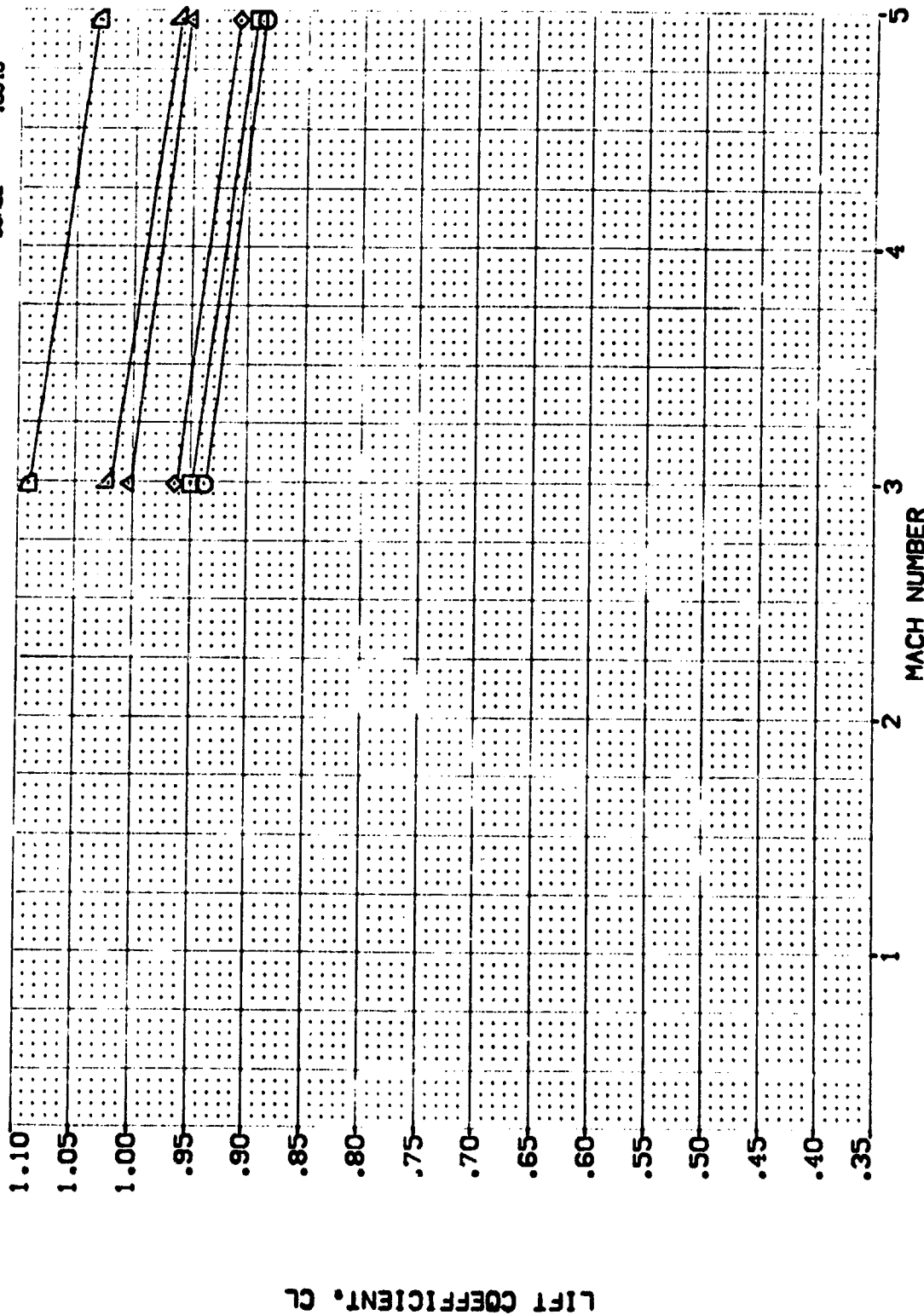
(DJALPHA = 35.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(822A01)	MSFC 581(DA49) DB 3A-0 (BDPM) (VE1(VR))
(822A02)	MSFC 581(DA49) DB 3A-0 (BDPM) (VE1(VR))
(822A03)	MSFC 581(DA49) DB 3A-0 (BDPM) (VE1(VR))
(822A04)	MSFC 581(DA49) DB 3A-0 (BDPM) (VE1(VR))
(822A05)	MSFC 581(DA49) DB 3A-0 (BDPM) (VE1(VR))

CLEVER BDFLAP SFDORR ALLCON REFERENCE INFORMATION

CLEVER	BDFLAP	SFDORR	ALLCON	REF	IN.
-33.650	-11.700	25.550	-320	2741.8000	50. FT
-32.840	-11.700	25.550	-240	481.6480	IN.
-15.550	-11.700	25.550	-100	936.7000	IN.
-4.310	-11.700	25.550	-630	1081.3500	IN.
.000	-11.700	25.550	-1.680	.0000	IN.
16.790	-11.700	25.550	SCALE	.0040	IN.

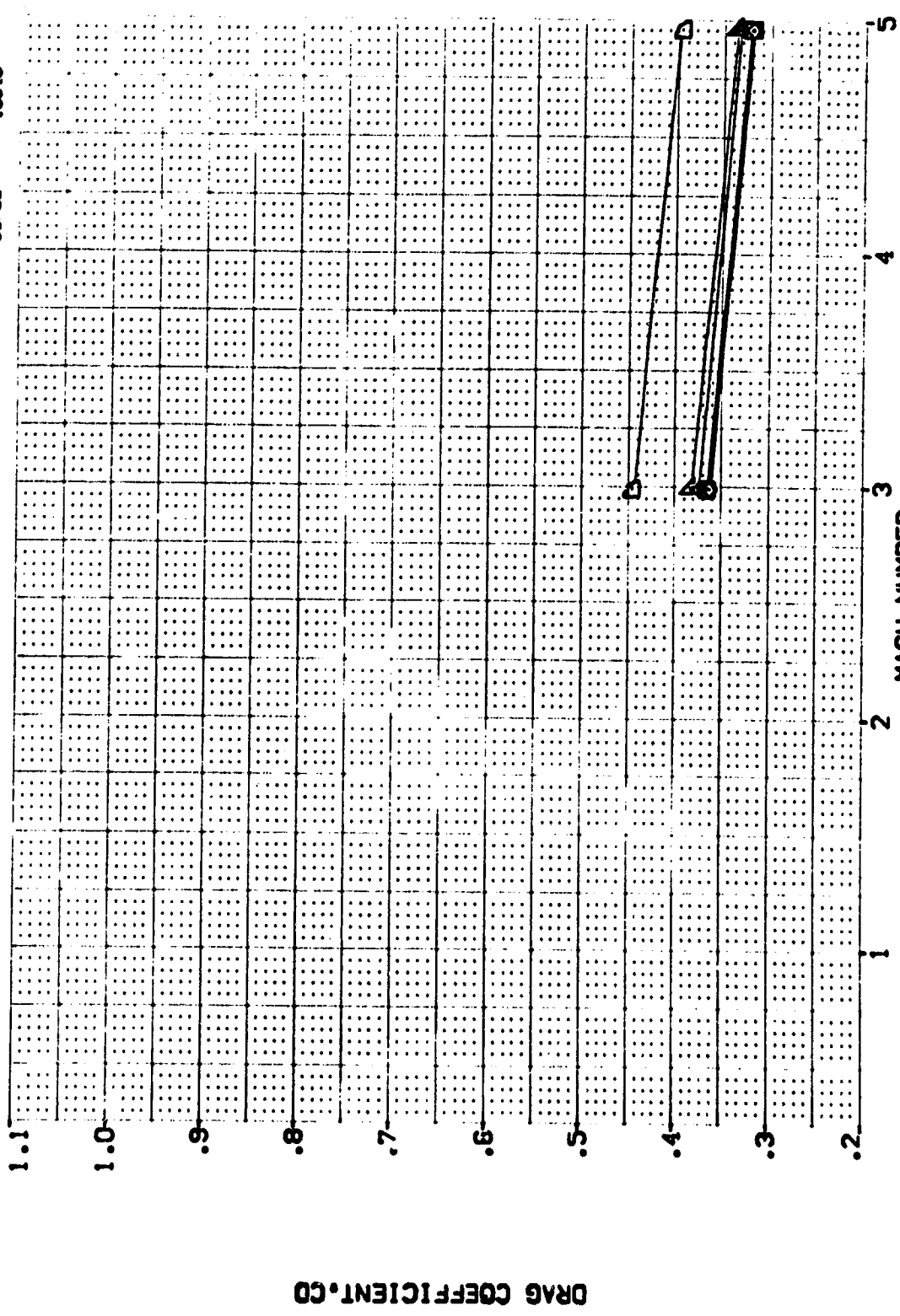


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E) ALPHA = 40.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDBRK	AILRON	REFERENCE INFORMATION
[822A01]	MSFC S01(0A49) 078 3A-0 (BOFM) (VEI(VR))	-39.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
[822A02]	MSFC S01(0A49) 078 3A-0 (BOFM) (VEI(VR))	-23.840	-11.700	25.550	-1.240	LREF 481.6480 IN.
[822A03]	MSFC S01(0A49) 078 3A-0 (BOFM) (VEI(VR))	-15.550	-11.700	25.550	-1.400	BREF 936.7000 IN.
[822A04]	MSFC S01(0A49) 078 3A-0 (BOFM) (VEI(VR))	-4.310	-11.700	25.550	-1.630	XREF 1081.2800 IN.
[822A05]	MSFC S01(0A49) 078 3A-0 (BOFM) (VEI(VR))	16.790	-11.700	25.550	-1.680	YREF .0000 IN.
						ZREF .0040 IN.
						SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS

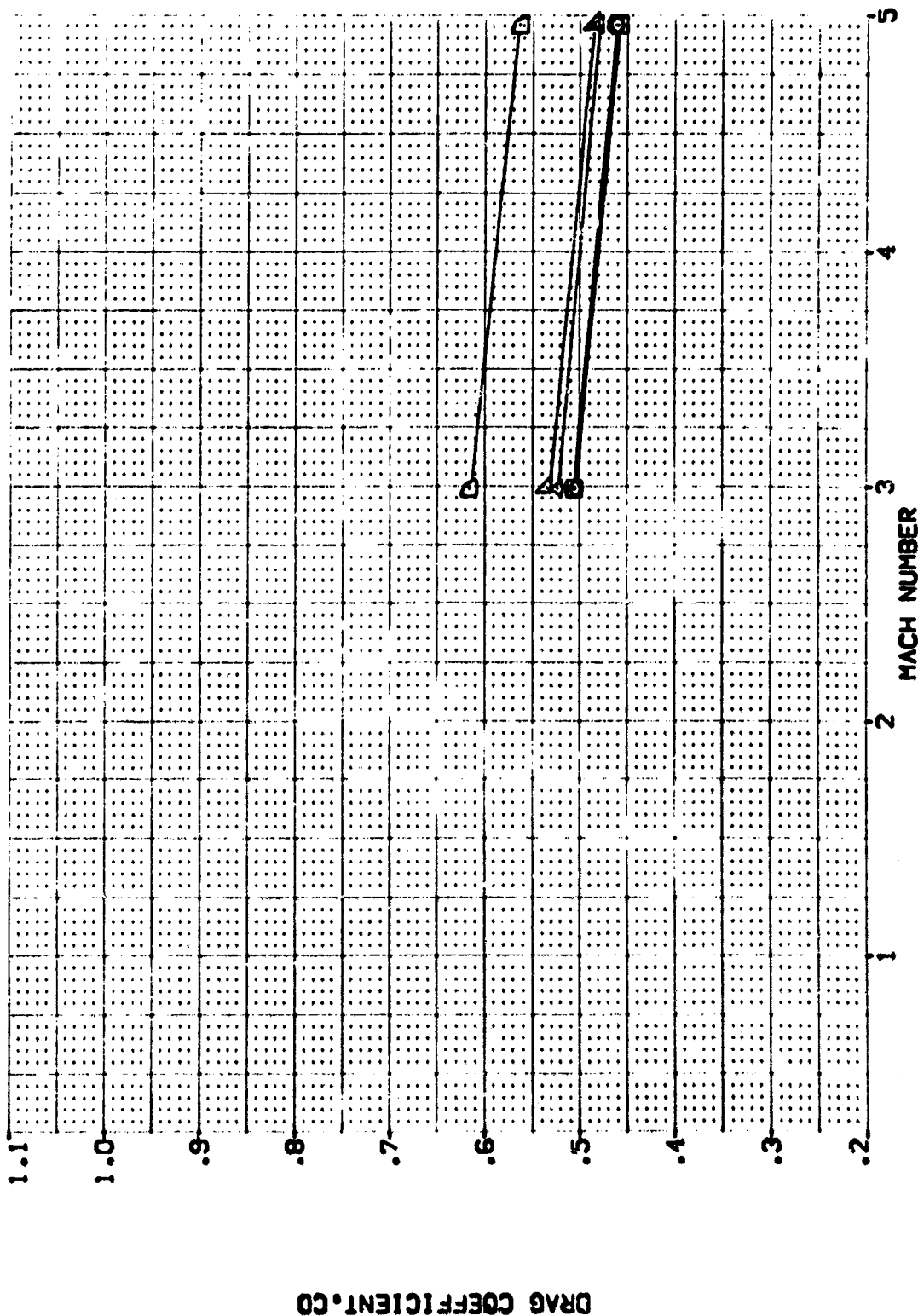
(B)ALPHA = 25.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(E22A01)	MSFC	S81(DA19)	018	34-0	(BDPH)	(VE)(VR)
(E22A17)	MSFC	S81(DA19)	018	34-0	(BDPH)	(VE)(VR)
(E22A02)	MSFC	S81(DA19)	018	34-0	(BDPH)	(VE)(VR)
(E22A03)	MSFC	S81(DA19)	018	34-0	(BDPH)	(VE)(VR)
(E22A04)	MSFC	S81(DA19)	018	34-0	(BDPH)	(VE)(VR)
(E22A05)	MSFC	S81(DA19)	018	34-0	(BDPH)	(VE)(VR)

ELEVTR BDCLAP SP0B0X AIL00W REFERENCE INFORMATION

-33.650	-11.700	25.550	-1.200	SREF	2741.8000	SQ. FT
-23.840	-11.700	25.550	-1.240	LREF	481.6480	IN.
-15.550	-11.700	25.550	-1.400	BREF	935.7000	IN.
-4.310	-11.700	25.550	-1.630	YREF	1081.3500	IN.
16.750	-11.700	25.550	-1.880	ZREF	0.0000	IN.
				SCALE	0.0040	



DRAG COEFFICIENT, CD

INTERPOLATED ZERO ELEVON CHARACTERISTICS

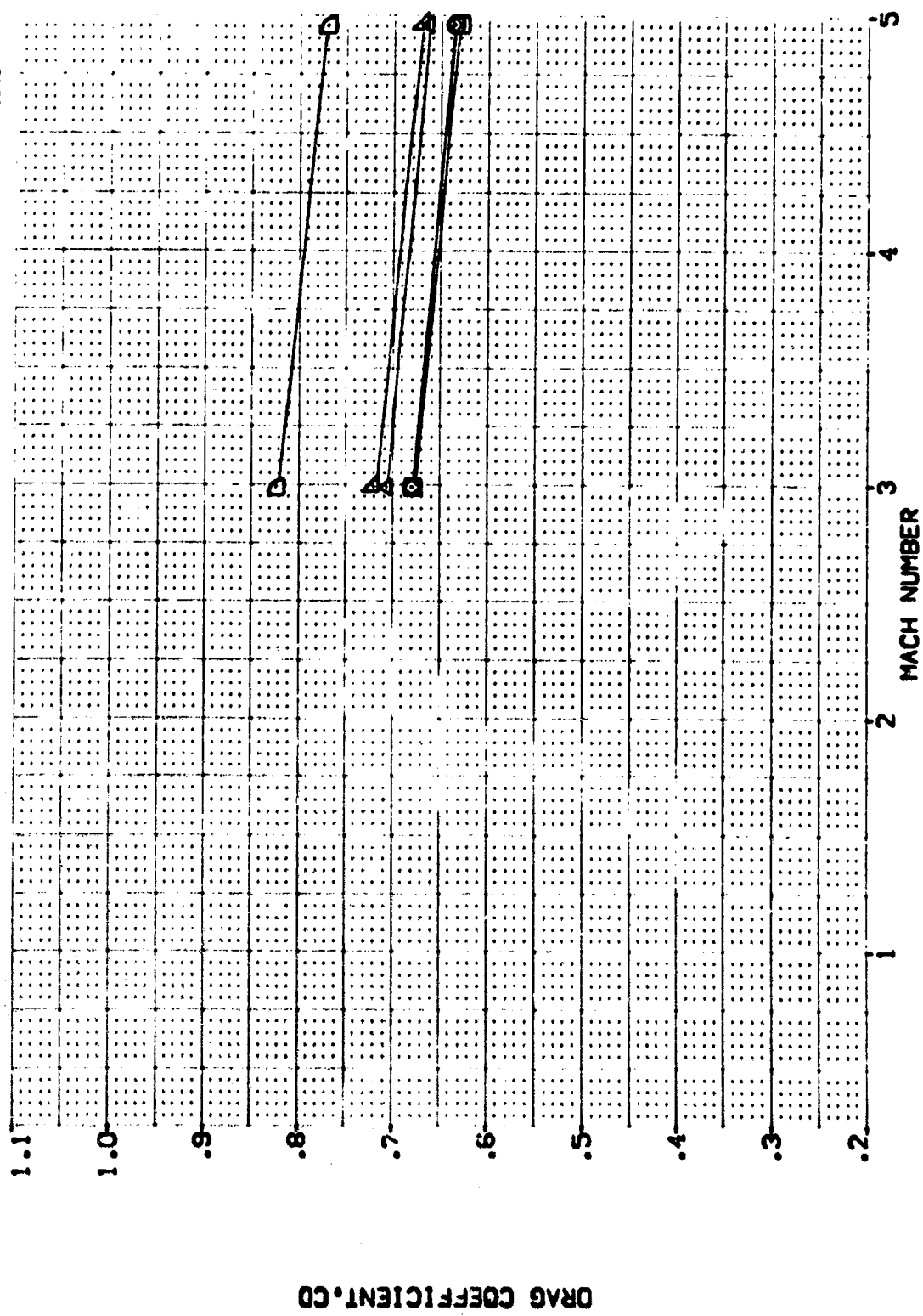
(CJ)ALPHA = 30.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B2)A01	MSL 501(CA)S	08 34-0	(B0FN) (VE)(VR)
(B3)A17	MSL 501(CA)S	08 34-0	(B0FN) (VE)(VR)
(B2)A02	MSL 501(CA)S	08 34-0	(B0FN) (VE)(VR)
(B2)A03	MSL 501(CA)S	08 34-0	(B0FN) (VE)(VR)
(B2)A04	MSL 501(CA)S	08 34-0	(B0FN) (VE)(VR)
(B2)A05	MSL 501(CA)S	08 34-0	(B0FN) (VE)(VR)

ELEVTR BOFLAP SPOBRK AIRRON REFERENCE INFORMATION

-33.650	-11.700	25.550	-320	REF	2741.8000	SC: FT
-23.840	-11.700	25.550	-740	LREF	481.6180	IN:
-15.550	-11.700	25.550	-400	BREF	936.7000	IN:
-4.310	-11.700	25.550	-630	XREF	1081.3900	IN:
16.750	-11.700	25.550	-1.680	YREF	0000	IN:
				ZREF	0000	IN:
				SCALE	.040	



DRAG COEFFICIENT, CD

INTERPOLATED ZERO ELEVON CHARACTERISTICS

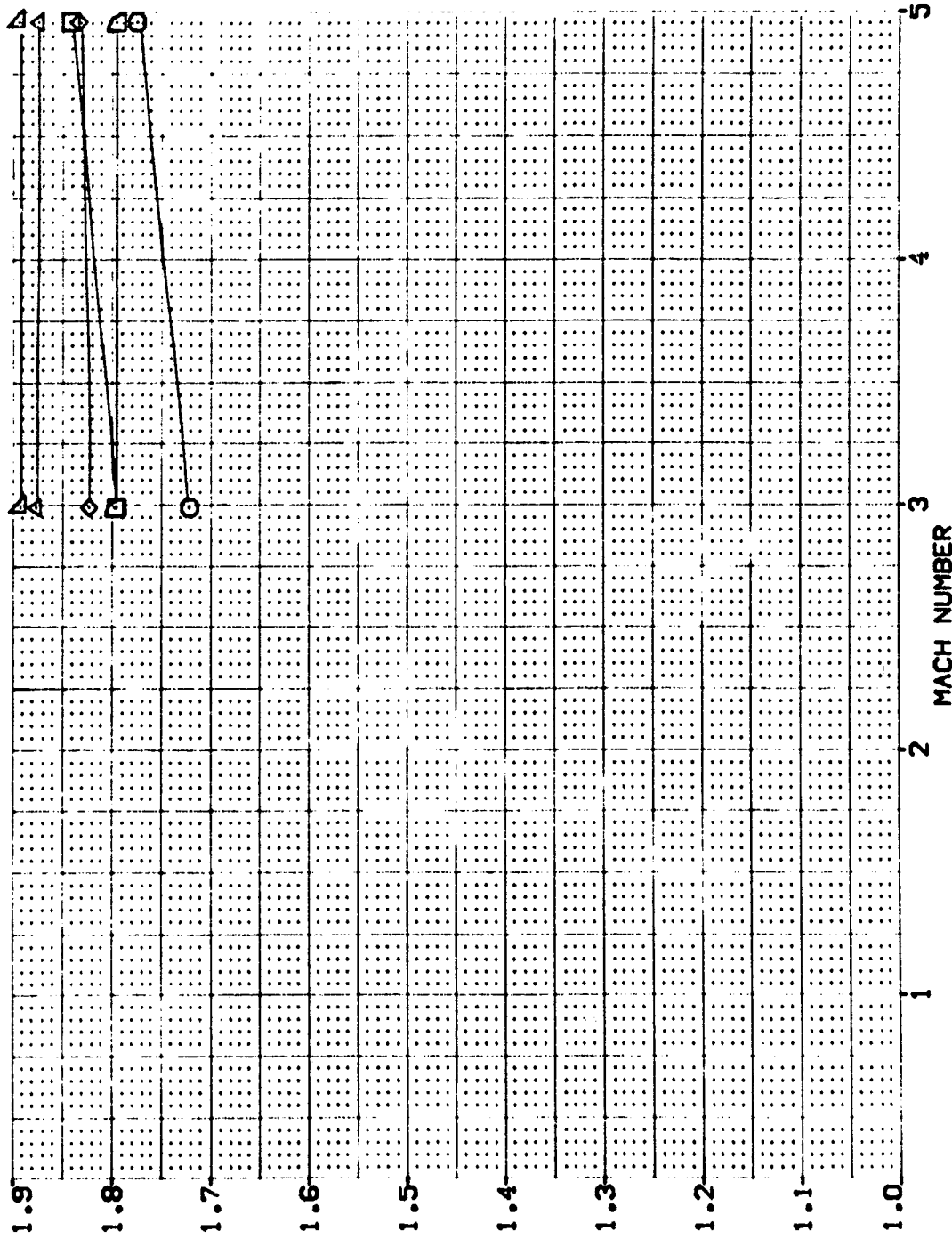
(C) ALPHA = 35.00



LIFT TO DRAG RATIO, L/D

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(892A01)	MSFC S81(CA4S) DB 34-0 (BOFM) (VEI)(VR)	ELEVTR	BOFLAP	SPDBRK	AILRON	REFERENCE INFORMATION	50. FT
(892A17)	MSFC S81(CA4S) DB 34-0 (BOFM) (VEI)(VR)	-39.650	-11.700	25.550	-320	SREF	2741.8000
(892A02)	MSFC S81(CA4S) DB 34-0 (BOFM) (VEI)(VR)	-32.840	-11.700	25.550	-240	LRFF	481.6480
(892A03)	MSFC S81(CA4S) DB 34-0 (BOFM) (VEI)(VR)	-15.550	-11.700	25.550	-400	BRFF	936.7000
(892A04)	MSFC S81(CA4S) DB 34-0 (BOFM) (VEI)(VR)	-4.310	-11.700	25.550	-630	XMRP	1081.3500
(892A05)	MSFC S81(CA4S) DB 34-0 (BOFM) (VEI)(VR)	.000	-11.700	25.550	-1000	YMRP	.0000
		16.790	-11.700	25.550	-1.680	ZMRP	.0000
						SCALE	.0040

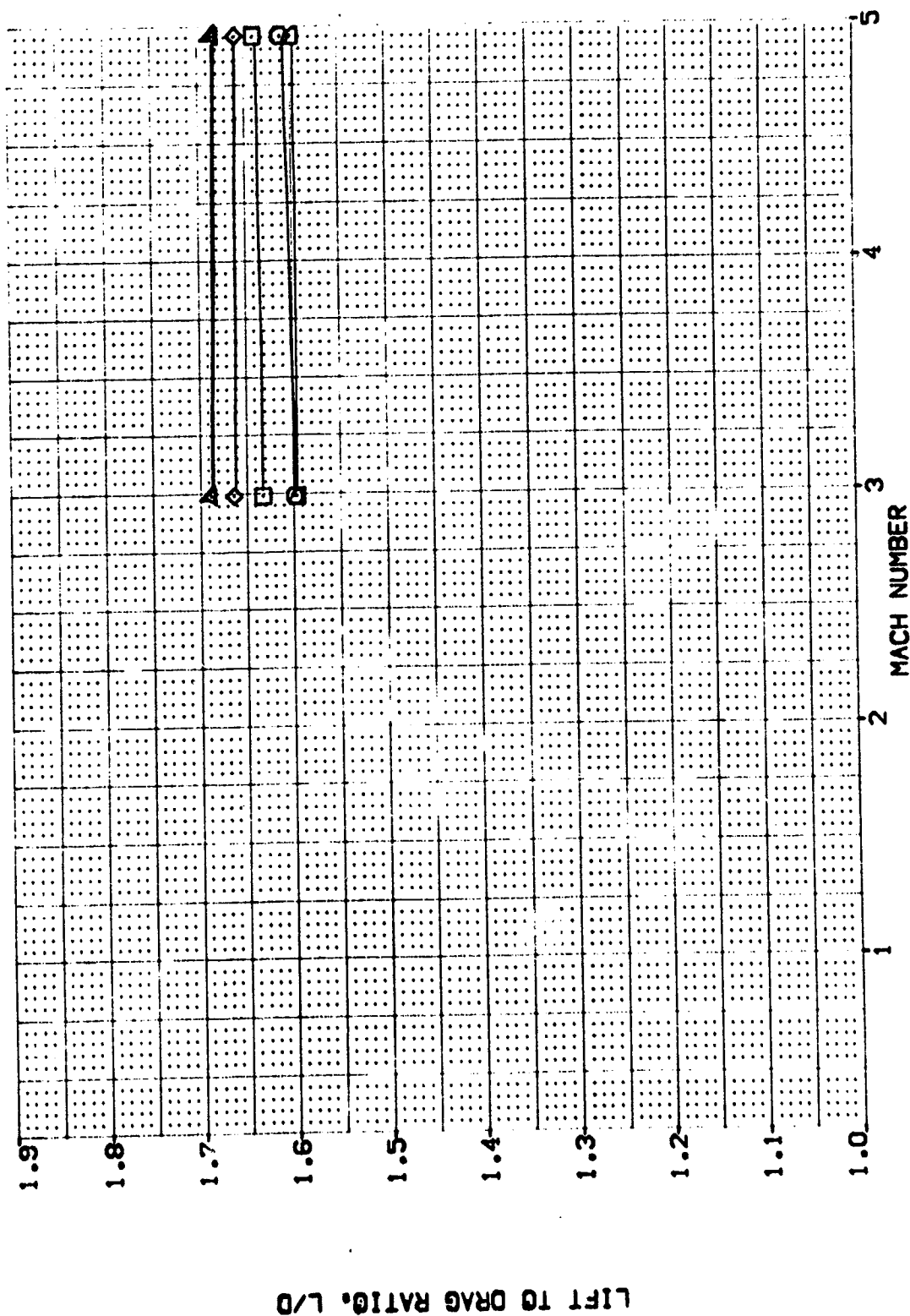


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(A)ALPHA = 20.00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SFOBRK	AILRGN	REFERENCE INFORMATION
(822A01)	H5C 581(0A49) D38 34-0 (BOTH) (VE)(VR)	-23.650	-11.700	25.550	SREF	2741.8000
(82A117)	H5C 581(0A49) D38 34-0 (BOTH) (VE)(VR)	-23.840	-11.700	25.550	LREF	481.6480
(82A103)	H5C 581(0A49) D38 34-0 (BOTH) (VE)(VR)	-15.950	-11.700	23.550	BREF	936.7000
(822A03)	H5C 581(0A49) D38 34-0 (BOTH) (VE)(VR)	-4.310	-11.700	23.550	XPRP	1081.2800
(822A04)	H5C 581(0A49) D38 34-0 (BOTH) (VE)(VR)	0.000	-11.700	23.550	YPRP	0.0000
(822A05)	H5C 581(0A49) D38 34-0 (BOTH) (VE)(VR)	16.750	-11.700	23.550	ZPRP	0.0000
					SCALE	0.0040

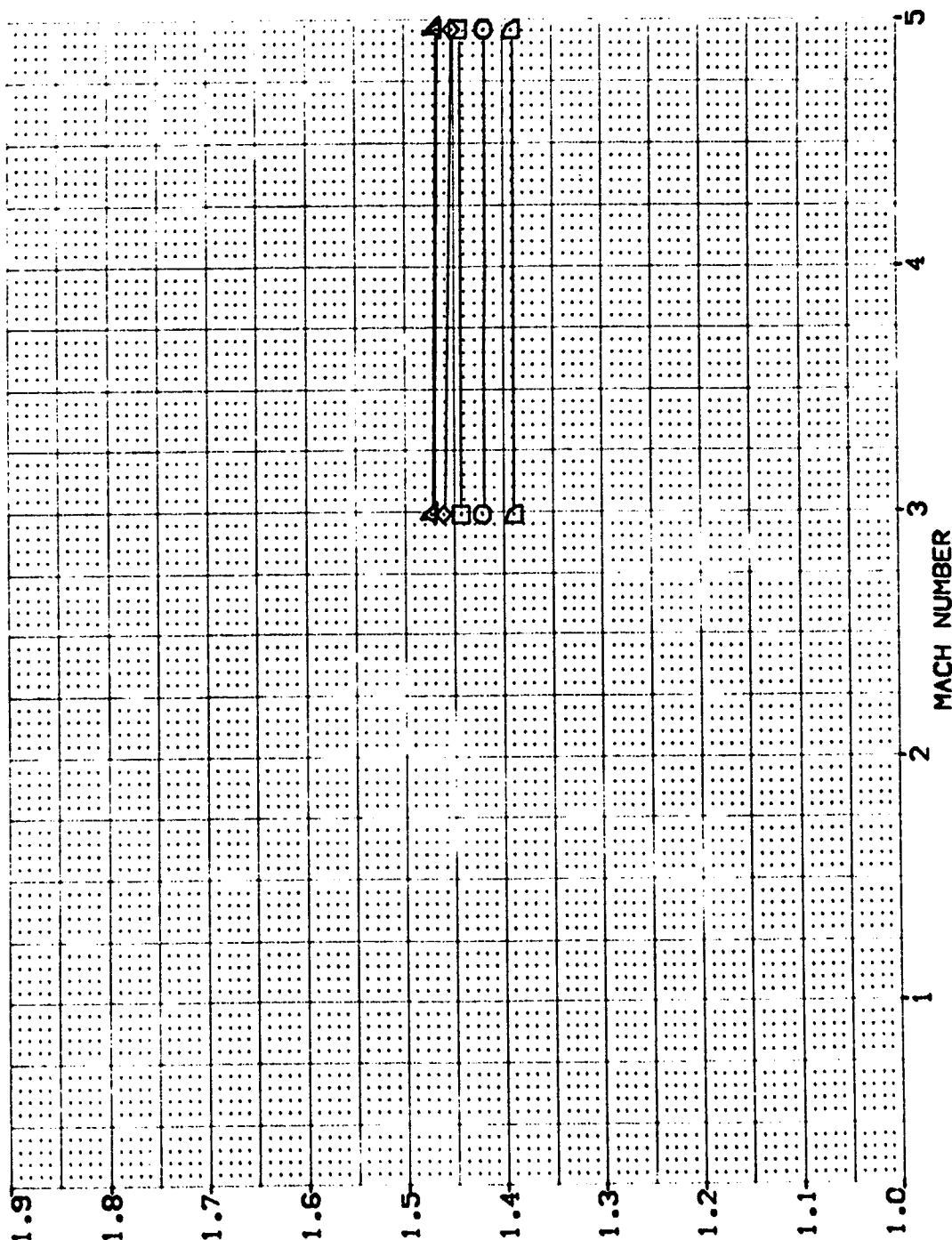


INTERPRETED ZERO ELEVON CHARACTERISTICS

$$C(B)ALPHA = 25.00$$

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION	SQ. FT
(832A01)	MSFC 581(DA49) 078 34-0 (BOFM) (VE)(VR)	-23.650	-11.700	25.550	-0.320	SREF 2741.8000	IN.
(83A117)	MSFC 581(DA49) 078 34-0 (BOFM) (VE)(VR)	-23.840	-11.700	25.550	-0.240	LREF 481.6480	IN.
(832A02)	MSFC 531(DA49) 078 34-0 (BOFM) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000	IN.
(832A03)	MSFC 531(DA49) 078 34-0 (BOFM) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP 1081.3500	IN.
(832A04)	MSFC 581(DA49) 078 34-0 (BOFM) (VE)(VR)	.000	-11.700	25.550	-1.000	YMRP .0000	IN.
(832A05)	MSFC 581(DA49) 078 34-0 (BOFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZMRP .0040	IN.

LIFT TO DRAG RATIO, L/D

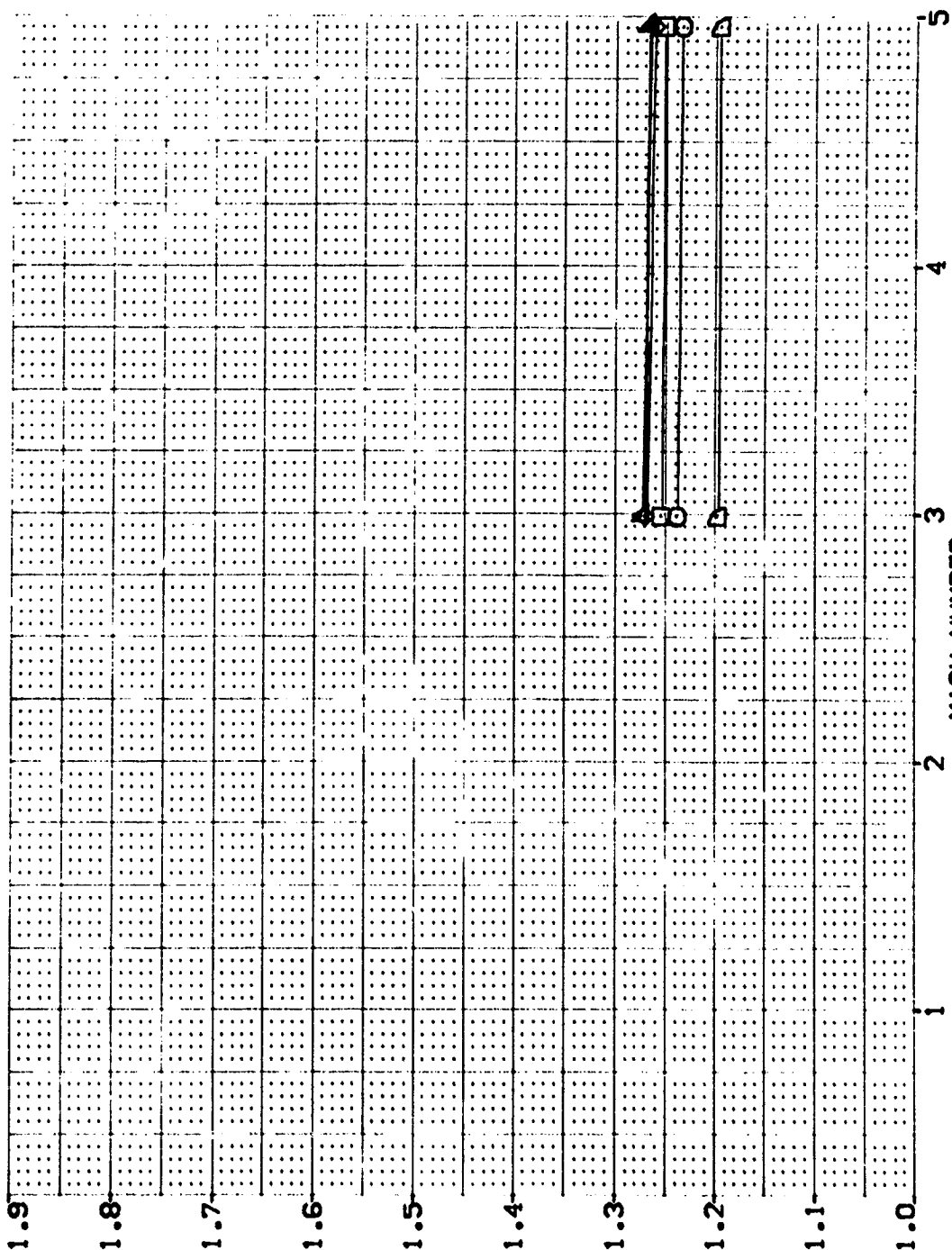


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(CJALPHA = 30.00)



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDCLAP	SFOBRK	AIRLBN	REFERENCE INFORMATION			
[E32A01]	MSFC 581(DA49) ORB 34-0 (BDTH) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF	2741	8000	50. FT
[E3A117]	MSFC 581(DA49) ORB 34-0 (BDTH) (VE)(VR)	-23.840	-11.700	25.550	-240	LREF	481	5480	IN.
[E32A02]	MSFC 581(DA49) ORB 34-0 (BDTH) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF	936	7000	IN.
[E32A03]	MSFC 581(DA49) ORB 34-0 (BDTH) (VE)(VR)	-4.310	-11.700	25.550	-530	XREF	1081	3500	IN.
[E32A04]	MSFC 581(DA49) ORB 34-0 (BDTH) (VE)(VR)	16.000	-11.700	25.550	-1.680	YREF		.0000	IN.
[E32A05]	MSFC 581(DA49) ORB 34-0 (BDTH) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZREF		.0000	IN.
						SCALE		.0040	



LIFT TO DRAG RATIO, L/D

INTERPOLATED ZERO ELEVON CHARACTERISTICS

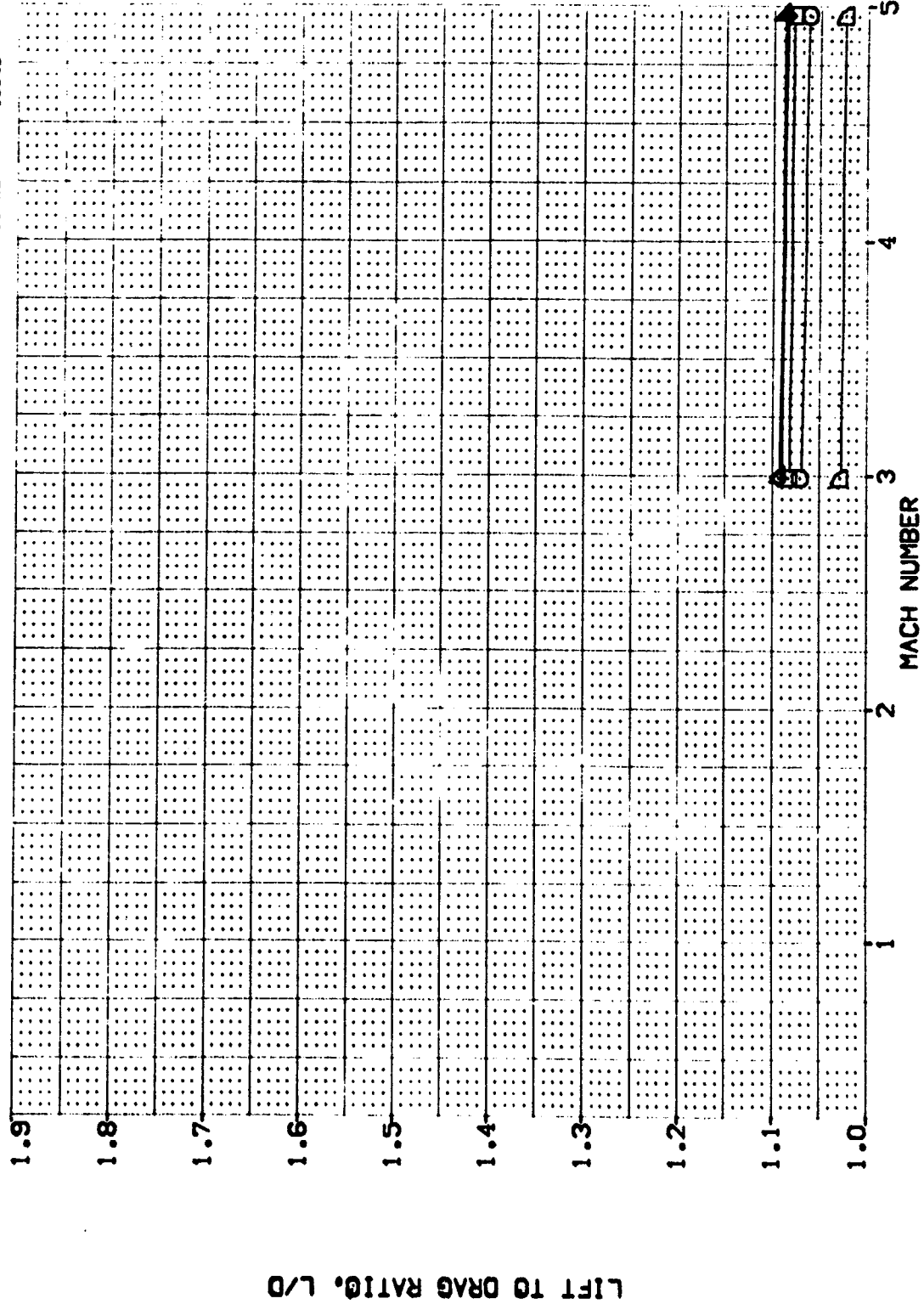
(D)ALPHA = 35.00

DATA SET SYMBOL
 [622A01]
 [622A17]
 [622A02]
 [622A03]
 [622A04]
 [622A05]

CONFIGURATION DESCRIPTION
 MSFC 581(0A49) DB 34-0 (BCH) (VE)(VR)
 MSFC 581(0A49) DB 34-0 (BCH) (VE)(VR)
 MSFC 581(0A49) DB 34-0 (BCH) (VE)(VR)
 MSFC 581(0A49) DB 34-0 (BCH) (VE)(VR)
 MSFC 581(0A49) DB 34-0 (BCH) (VE)(VR)

ELEVTR BDFLAP SPDBRK AILRON
 -33.650 -11.700 25.550 -0.320
 -23.840 -11.700 25.550 -0.240
 -15.550 -11.700 25.550 -0.400
 -4.310 -11.700 25.550 -0.630
 16.790 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.6000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0040 IN.
 SCALE



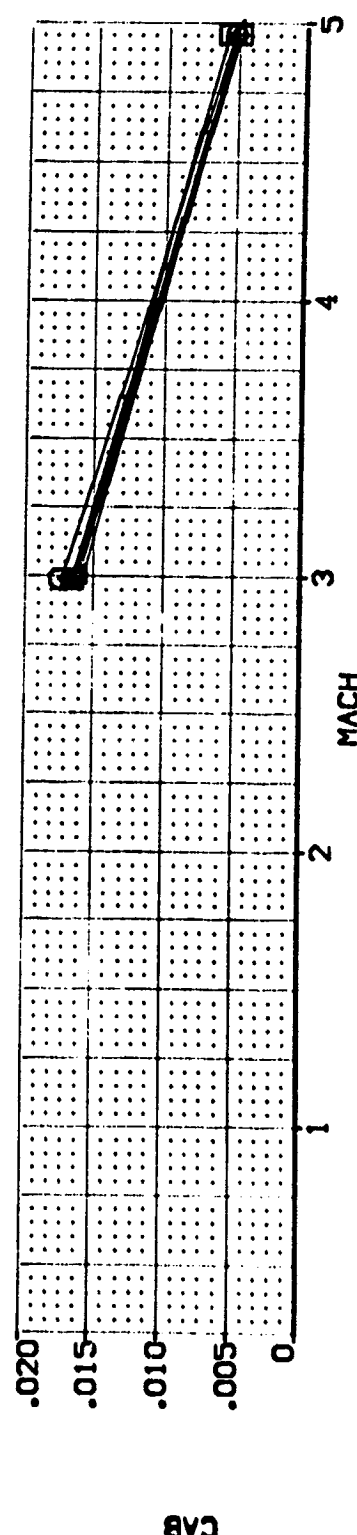
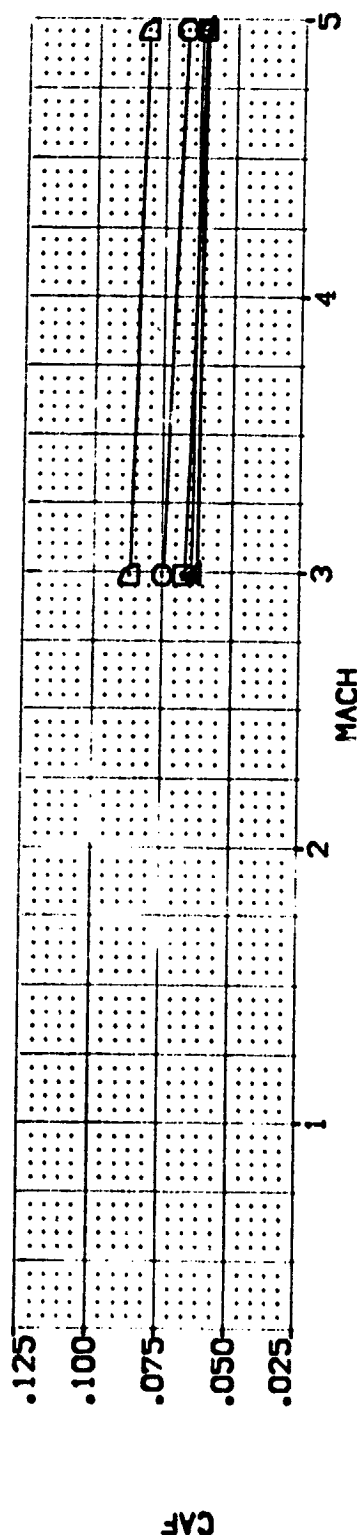
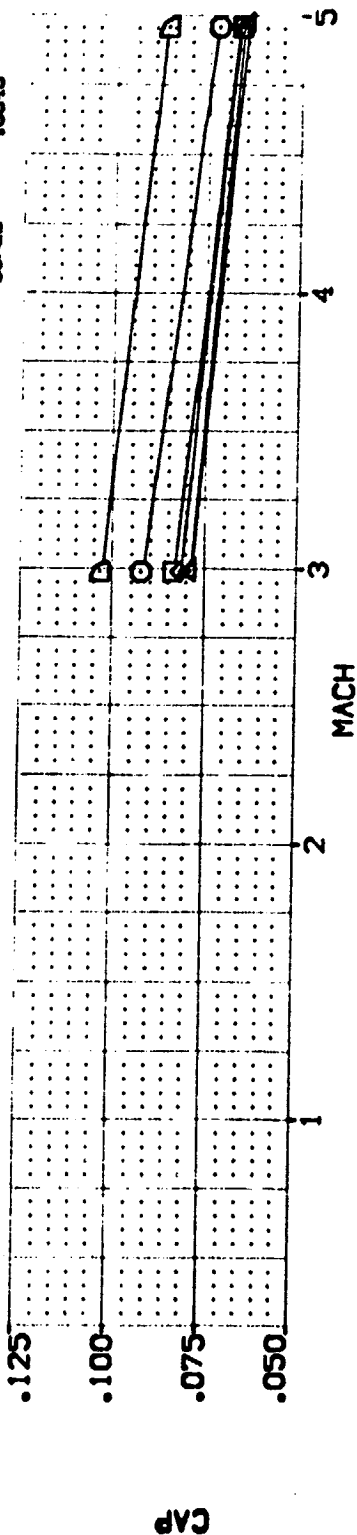
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(EJALPHA = 40.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	SREF	LREF	BREF	XREF	YREF	ZREF	SCALE	SO. FT
[632A01]	HSTC S01(OA49) 038 34-0 (BOFM) (VE)(VR)	-33.650	-11.700	25.550	-320	2741.8000	481.6480	936.7000	1081.3500	0.0000	0.0000	0.0040	IN.
[632A02]	HSTC S01(OA49) 038 34-0 (BOFM) (VE)(VR)	-23.840	-11.700	25.550	-240	2741.8000	481.6480	936.7000	1081.3500	0.0000	0.0000	0.0040	IN.
[632A03]	HSTC S01(OA49) 038 34-0 (BOFM) (VE)(VR)	-15.550	-11.700	25.550	-400	2741.8000	481.6480	936.7000	1081.3500	0.0000	0.0000	0.0040	IN.
[632A04]	HSTC S01(OA49) 038 34-0 (BOFM) (VE)(VR)	-4.310	-11.700	25.550	-630	2741.8000	481.6480	936.7000	1081.3500	0.0000	0.0000	0.0040	IN.
[632A05]	HSTC S01(OA49) 038 34-0 (BOFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	2741.8000	481.6480	936.7000	1081.3500	0.0000	0.0000	0.0040	IN.



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(AJALPHA = 20.00

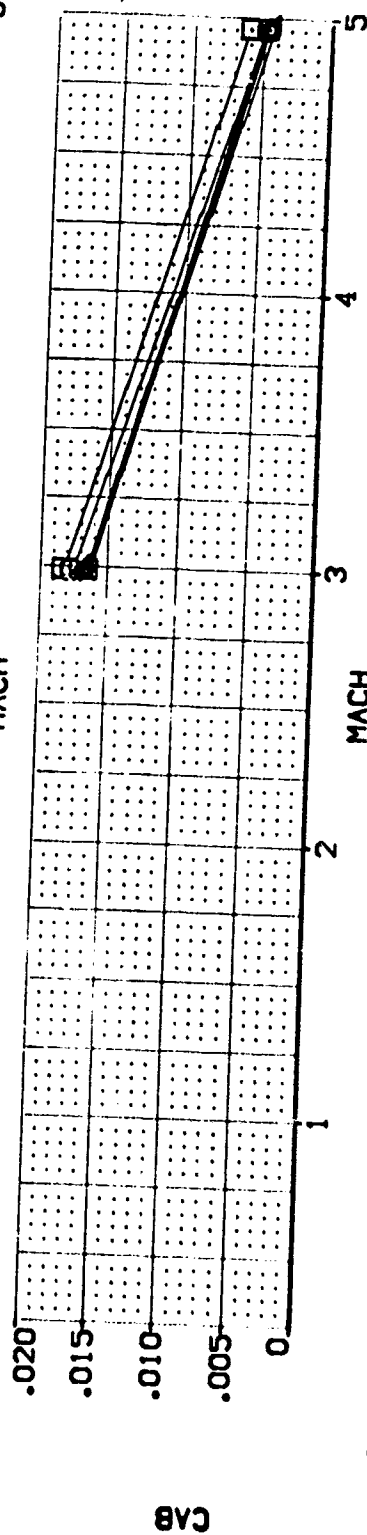
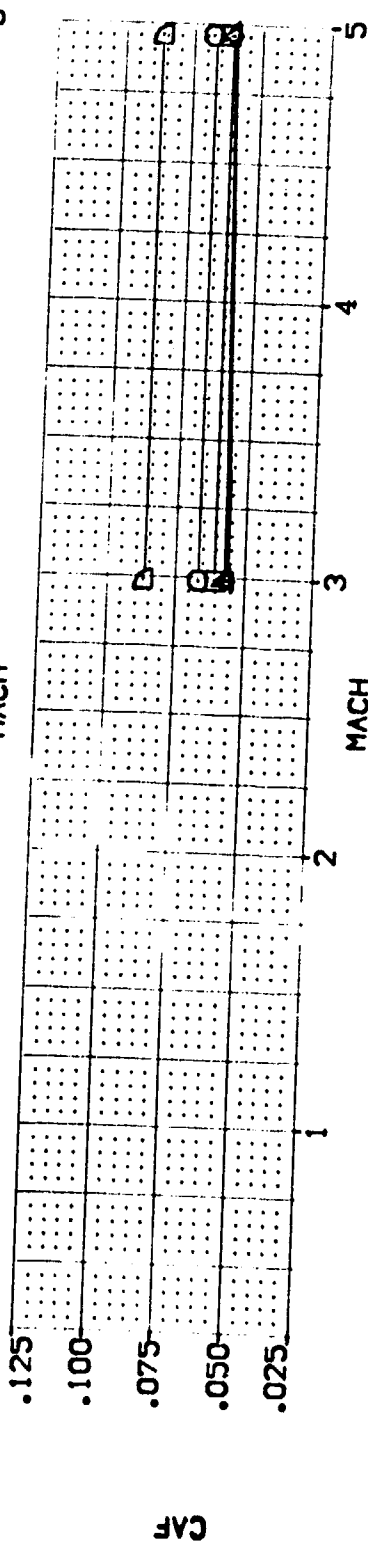
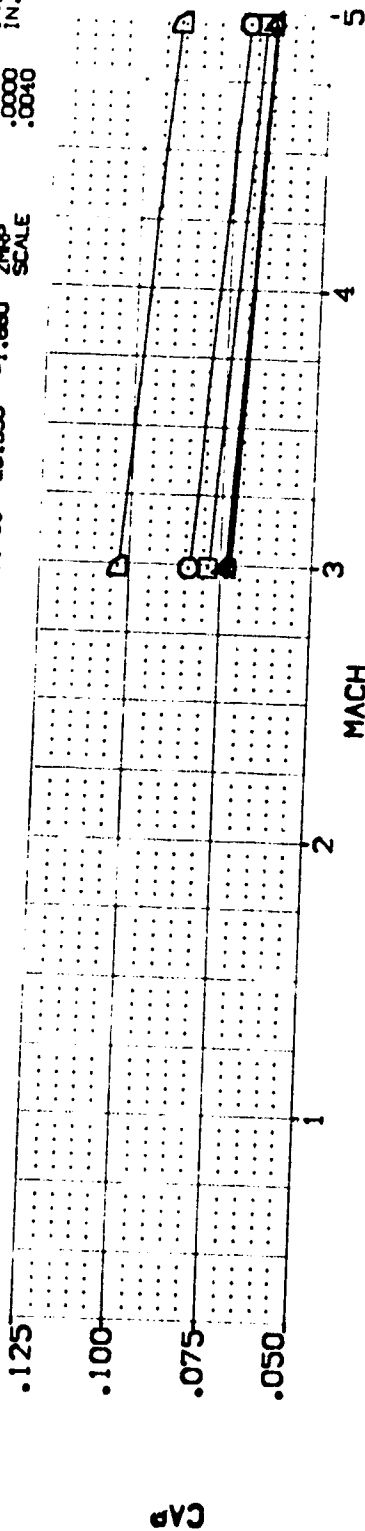
DATA SET SYMBOL

CONFIGURATION DESCRIPTION

(852A01) MSFC 581(0A49) DB 34-0 (BCH) (VE)(VR)
 (852A02) MSFC 581(0A49) DB 34-0 (BCH) (VE)(VR)
 (852A03) MSFC 581(0A49) DB 34-0 (BCH) (VE)(VR)
 (852A04) MSFC 581(0A49) DB 34-0 (BCH) (VE)(VR)
 (852A05) MSFC 581(0A49) DB 34-0 (BCH) (VE)(VR)

ELEVTR BOFLAP SPDRBK AIRLON
 -33.630 -11.700 25.550 -1.320
 -23.840 -11.700 25.550 -1.240
 -15.550 -11.700 25.550 -1.400
 -4.310 -11.700 25.550 -1.630
 16.750 -11.700 25.550 -1.880

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B) ALPHA = 25.00

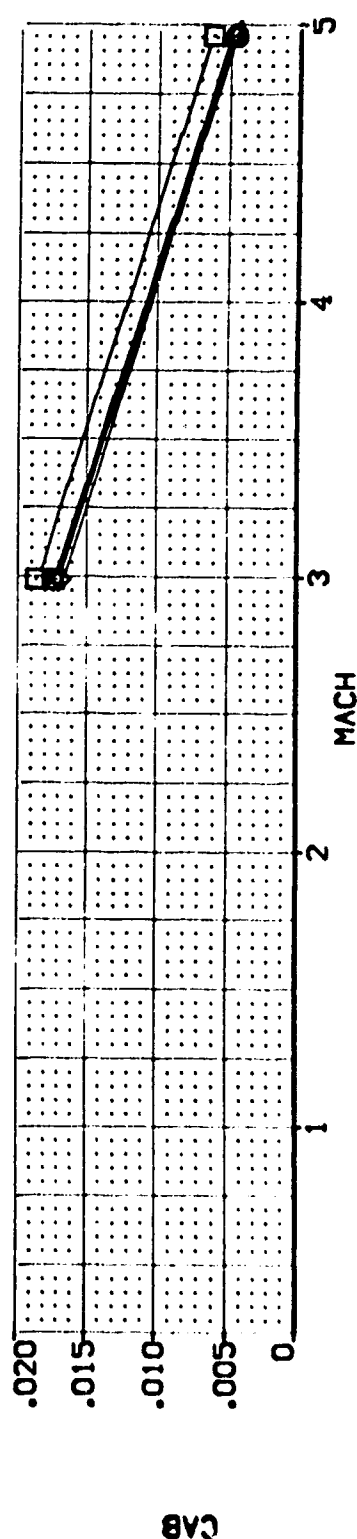
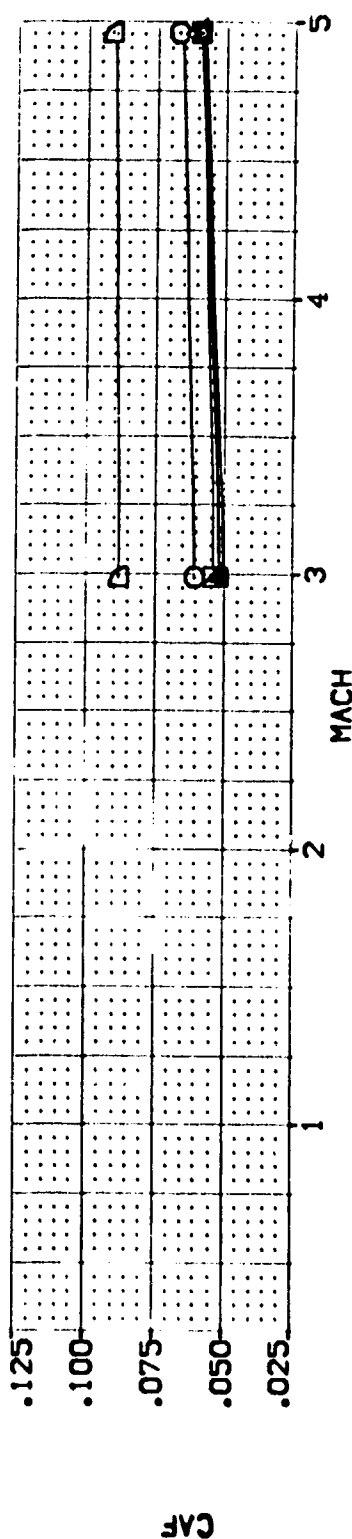
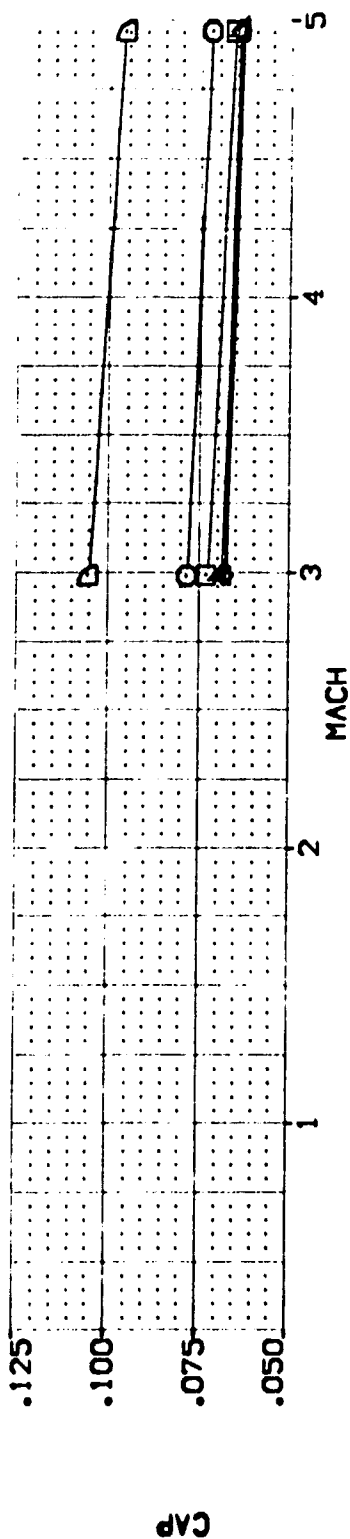


DATA SET SYMBO. CONFIGURATION DESCRIPTION

(82A01)	REF	591(0A19)	038	34-0	(BDTH)	(VE)(VR)
(82A117)	REF	591(0A19)	038	34-0	(BDTH)	(VE)(VR)
(82A02)	REF	591(0A19)	038	34-0	(BDTH)	(VE)(VR)
(82A03)	REF	591(0A19)	038	34-0	(BDTH)	(VE)(VR)
(82A04)	REF	591(0A19)	038	34-0	(BDTH)	(VE)(VR)
(82A05)	REF	591(0A19)	038	34-0	(BDTH)	(VE)(VR)

ELEVTR BDFLAP SPDBRK AILRON REFERENCE INFORMATION

-33.550	-11.700	25.550	-320	SREF	2741.8000	50. FT
-22.840	-11.700	25.550	-240	LREF	481.6460	IN:
-15.550	-11.700	25.550	-100	BREF	536.7000	IN:
-4.310	-11.700	25.550	-630	XPRP	1081.3500	IN:
.000	-11.700	25.550	-1.680	YPRP	.0000	IN:
16.790	-11.700	25.550		ZPRP	.0000	IN:
				SCALE	.0040	



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)ALPHA = 30.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

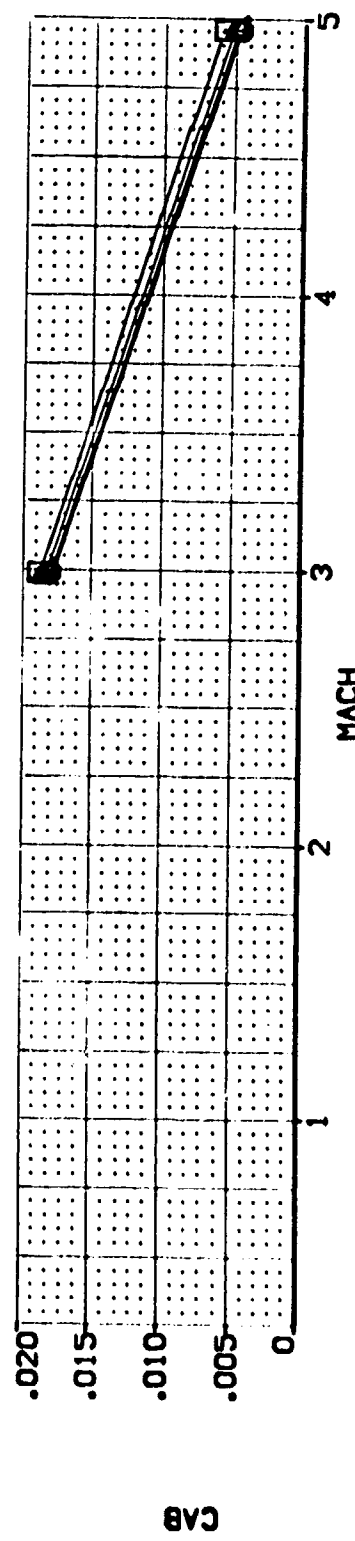
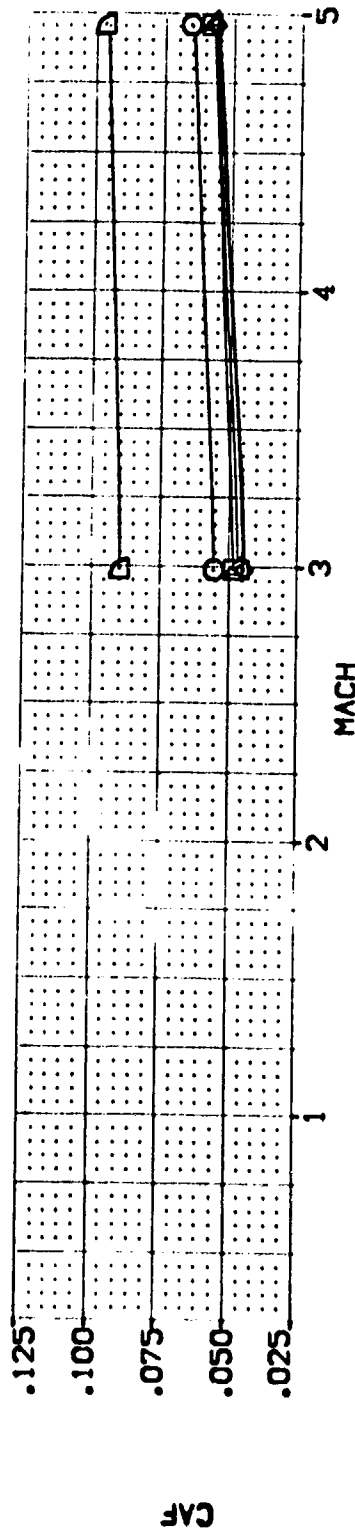
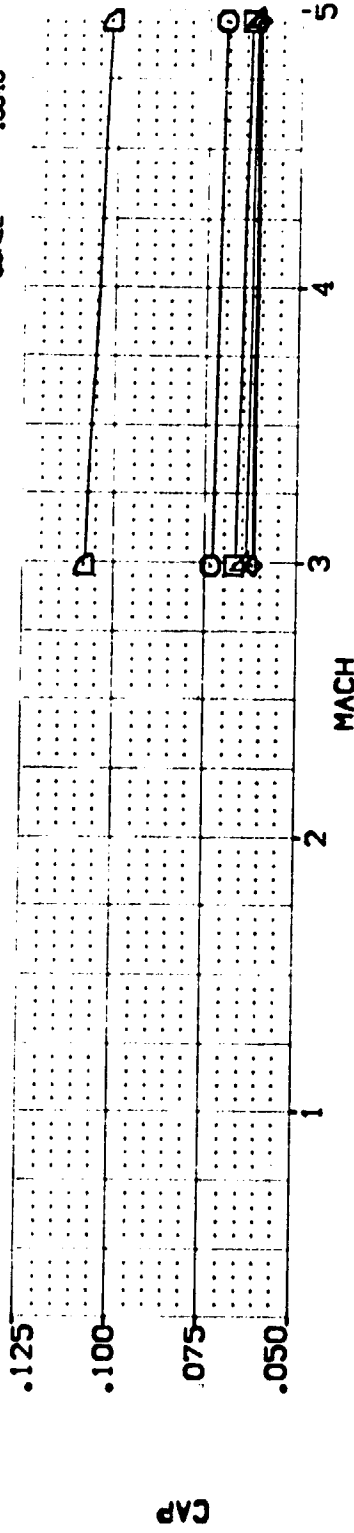
(832A01)	MS-C 501(OA49) 038 34-0 (BOFH) (VE)(VR)
(832A02)	MS-C 501(OA49) 038 34-0 (BOFH) (VE)(VR)
(832A03)	MS-C 501(OA49) 038 34-0 (BOFH) (VE)(VR)
(832A04)	MS-C 501(OA49) 038 34-0 (BOFH) (VE)(VR)
(832A05)	MS-C 501(OA49) 038 34-0 (BOFH) (VE)(VR)

ELEVTR BOFLAP SPOBRK AILRON

-33.650	-11.700	25.550	-1.680
-23.840	-11.700	25.550	-1.680
-15.550	-11.700	25.550	-1.680
-4.310	-11.700	25.550	-1.680
16.790	-11.700	25.550	-1.680

REFERENCE INFORMATION

SREF	2741.8000	SD: FT
LREF	481.6480	IN: IN.
BREF	536.7000	IN: IN.
YARP	1081.3600	IN: IN.
ZARP	.0000	IN: IN.
SCALE	.0040	



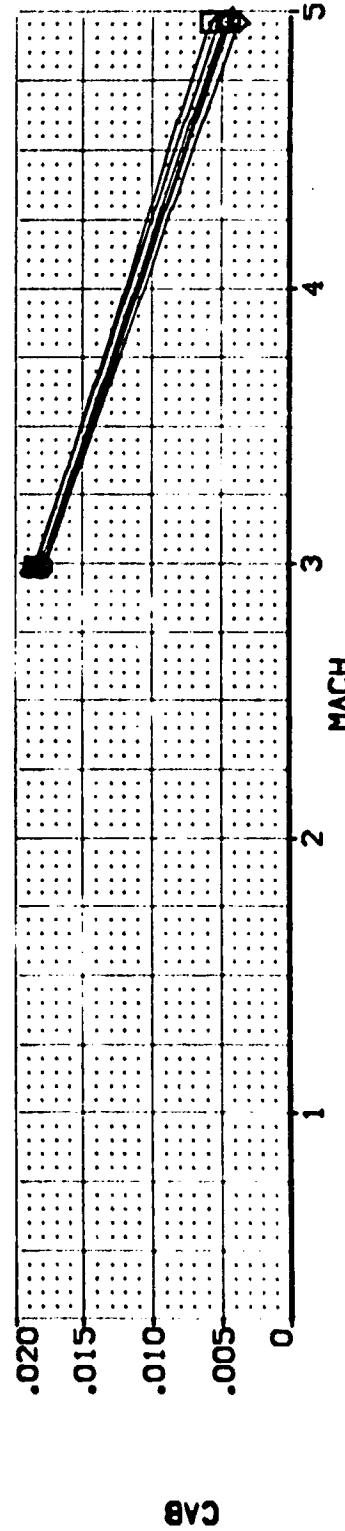
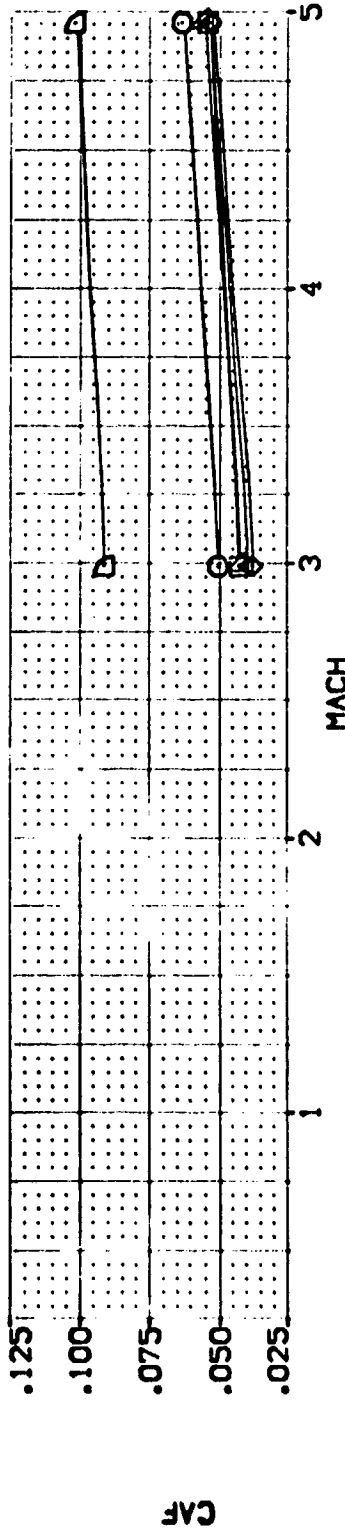
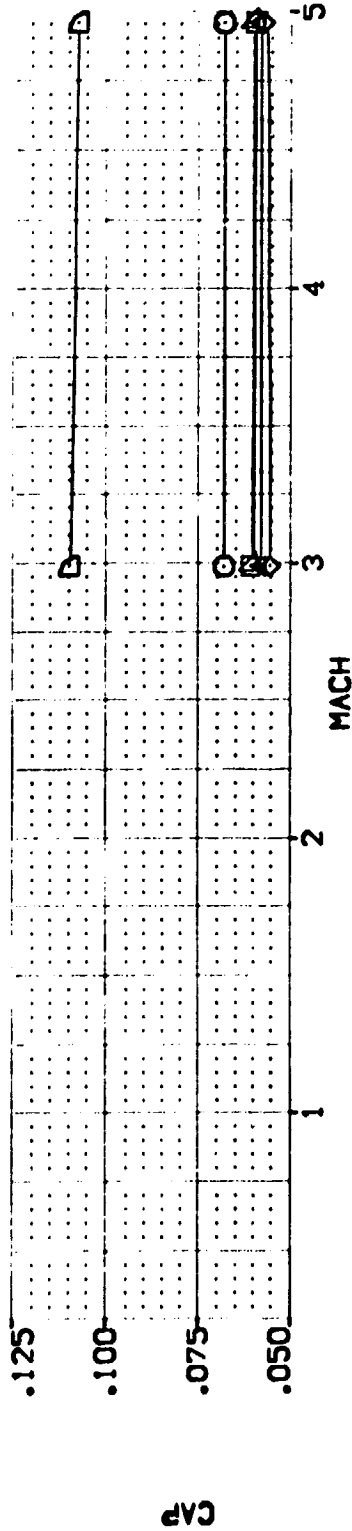
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(O) ALPHA = 35.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [892A01] MSFC 591(0A49) 078 3A-0 (BOTH) (VE)(VR)
 [89A117] MSFC 591(0A49) 078 3A-0 (BOTH) (VE)(VR)
 [89A102] MSFC 591(0A49) 078 3A-0 (BOTH) (VE)(VR)
 [89A103] MSFC 591(0A49) 078 3A-0 (BOTH) (VE)(VR)
 [89A104] MSFC 591(0A49) 078 3A-0 (BOTH) (VE)(VR)
 [89A105] MSFC 591(0A49) 078 3A-0 (BOTH) (VE)(VR)

ELEVTR BOFLAP SPICSRK AILRON REFERENCE INFORMATION SQ. FT
 -33.650 -11.700 25.550 -.320 SREF 2741.8000 SQ.
 -23.640 -11.700 25.550 -.240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -.400 BREF 936.7000 IN.
 -4.310 -11.700 25.550 -.630 XREF 1081.3900 IN.
 16.790 -11.700 25.550 -.000 YREF .0000 IN.
 16.790 -11.700 25.550 -.000 ZREF .0000 IN.
 16.790 -11.700 25.550 -.000 SCALE .0040



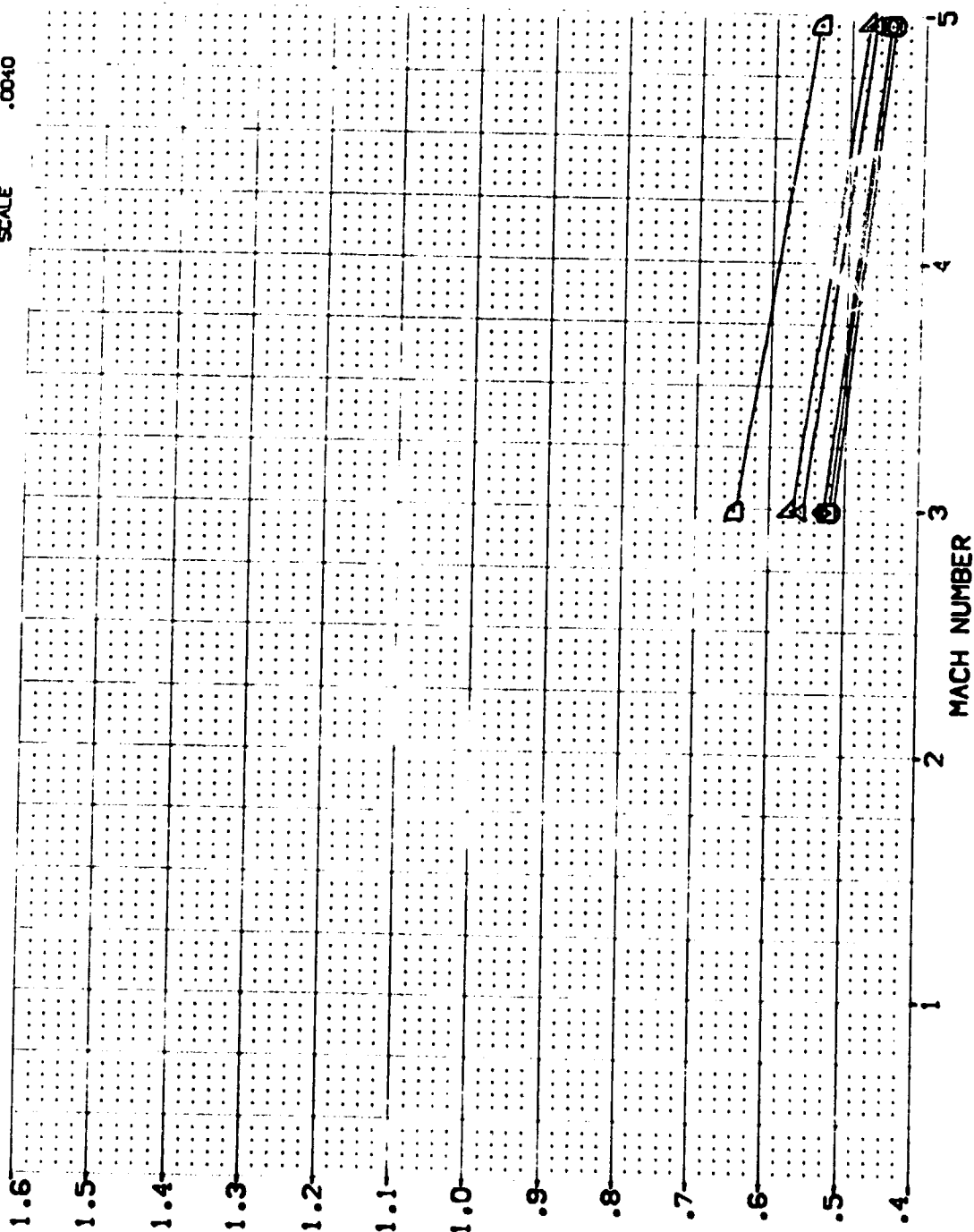
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)ALPHA = 40.00

[illegible]

ELEVTR	80FLAP	SPDRBK	AILRON
33.650	-11.700	25.550	-320
23.840	-11.700	25.550	-240
15.550	-11.700	25.550	-400
-4.310	-11.700	25.550	-630
0.000	-11.700	25.550	
16.790	-11.700	25.550	-1.680

REFERENCE INFORMATION		SO.	FT.
SREF	2741	8000	IN.
LREF	481	6480	IN.
BREF	936	7000	IN.
XMRP	1081	3900	IN.
YMRP		0000	IN.
ZMRP		0000	IN.
SCALE		0040	



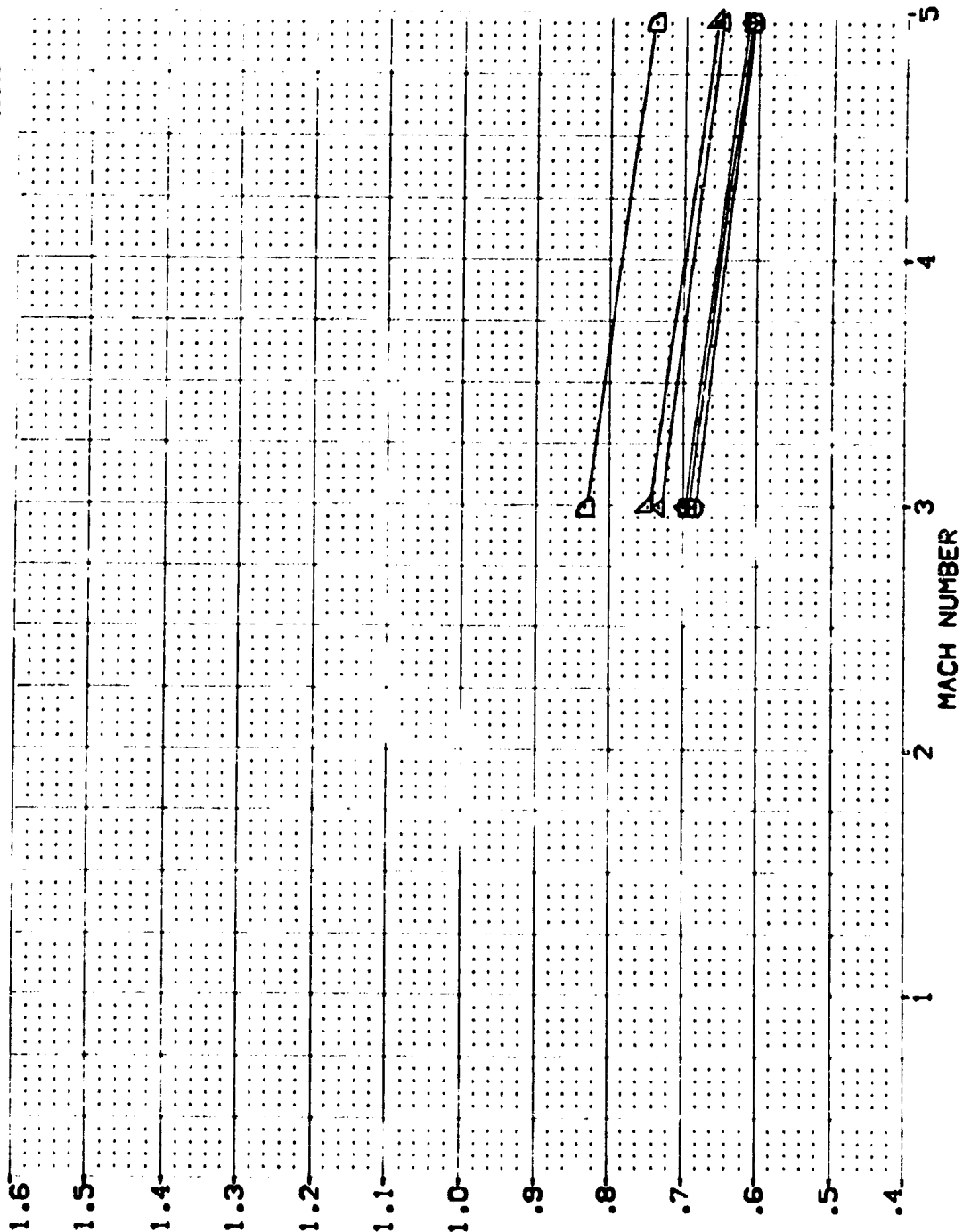
NORMAL FORCE COEFFICIENT, CN

INTERPOLATED ZERO-ELECTRON CHARACTERISTICS

CALPHA = 20.00



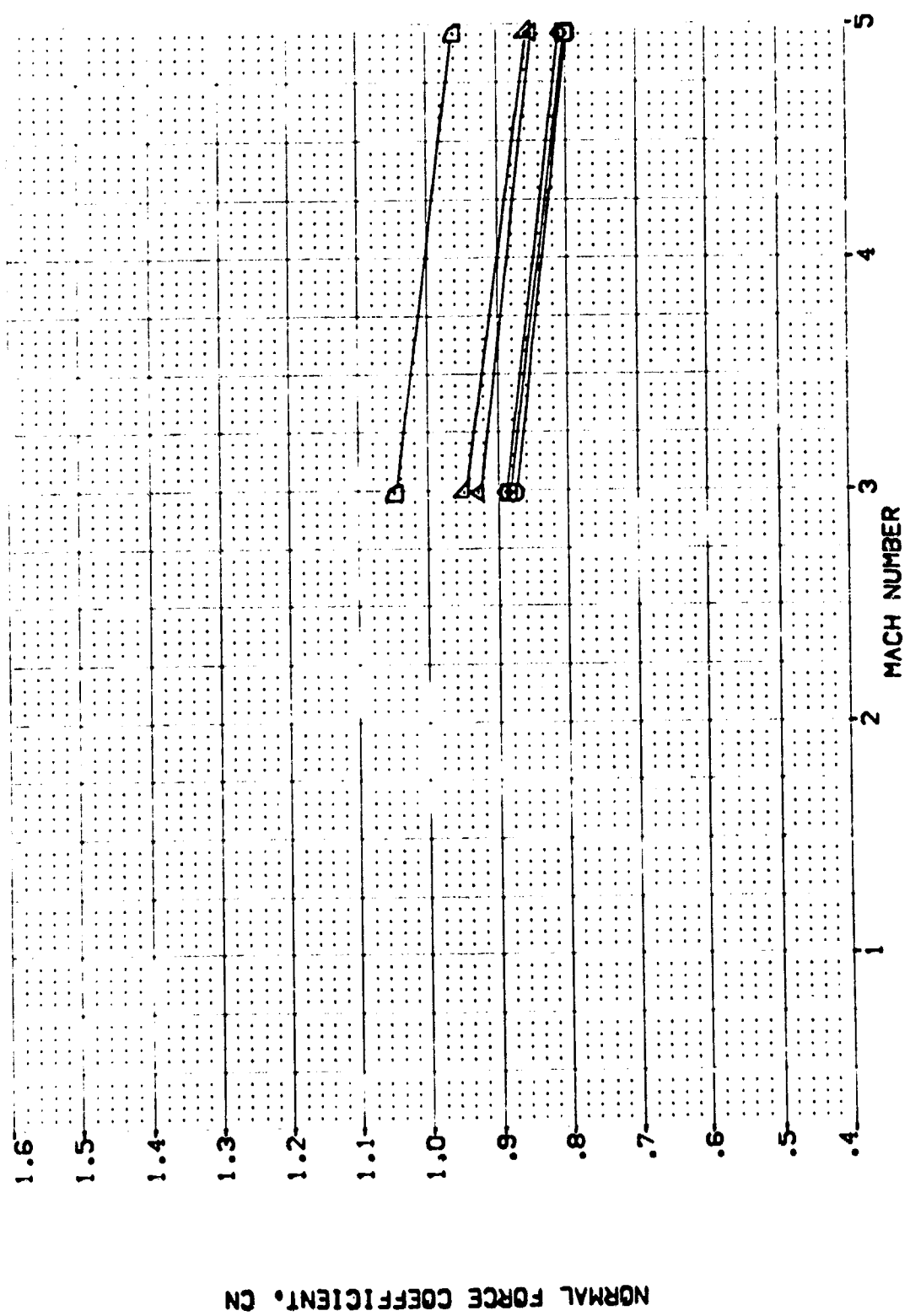
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDPLAP	SPDRBK	AILRON	REFERENCE INFORMATION	SO. FT
[002A01]	[002A01] [0A19] [000 34-0] [BDTH] [VE] [VR]	-33.650	-11.700	25.550	-320	SREF	2741.8000
[002A02]	[002A02] [0A19] [000 34-0] [BDTH] [VE] [VR]	-23.840	-11.700	25.550	-340	LREF	481.6480
[002A03]	[002A03] [0A19] [000 34-0] [BDTH] [VE] [VR]	-15.550	-11.700	25.550	-400	BREF	926.7000
[002A04]	[002A04] [0A19] [000 34-0] [BDTH] [VE] [VR]	-4.310	-11.700	25.550	-630	XREF	1081.3800
[002A05]	[002A05] [0A19] [000 34-0] [BDTH] [VE] [VR]	16.750	-11.700	25.550	-1.880	YREF	.0000
						SCALE	.0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B) ALPHA = 25.00

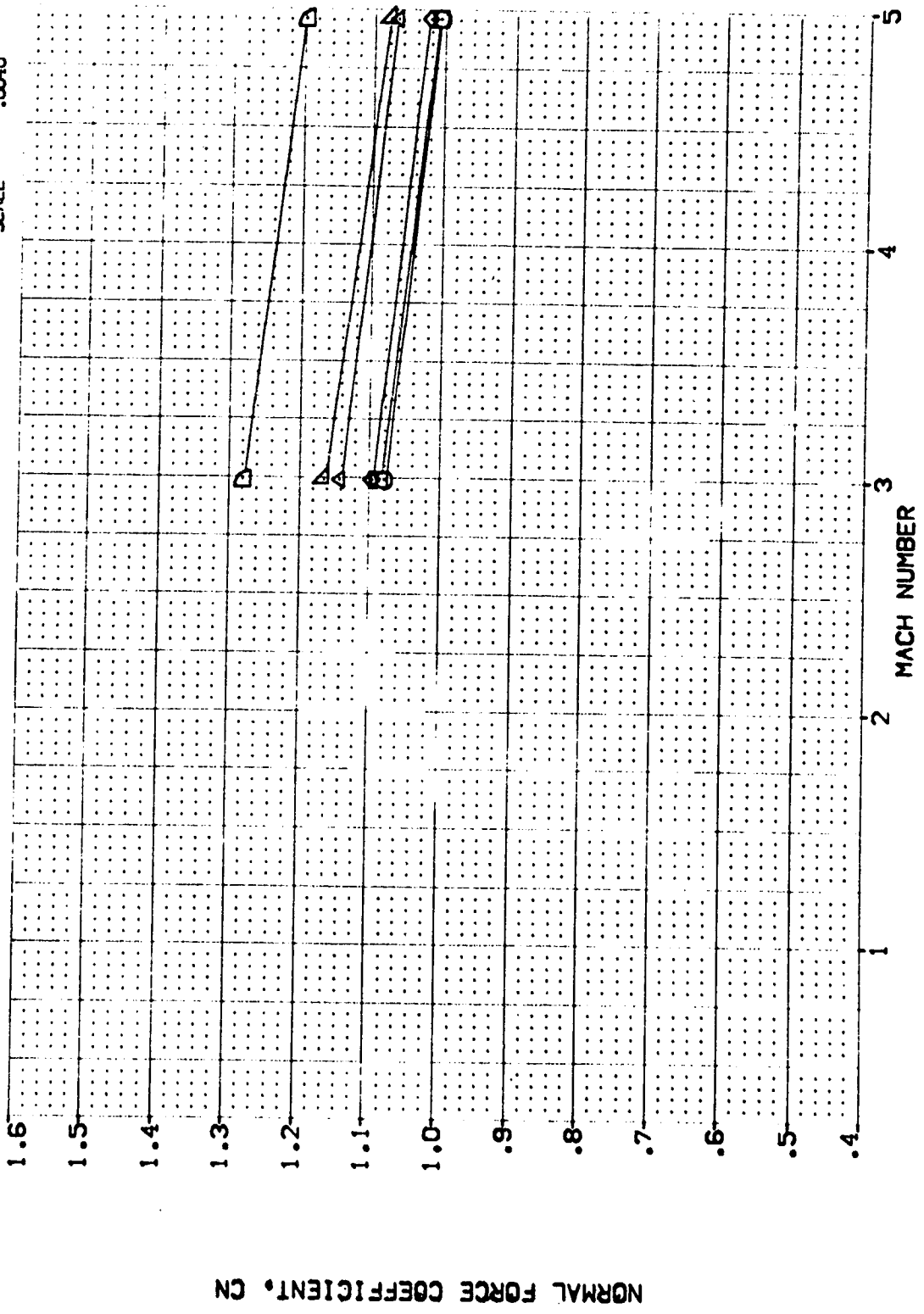
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
[P32A01]	MSFC 501 (CA49) 000 34-0 (BOTH) (VE) (VR)	-33.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
[P32A02]	MSFC 501 (CA49) 000 34-0 (BOTH) (VE) (VR)	-23.840	-11.700	25.550	-1.240	LREF 481.6460 IN.
[P32A03]	MSFC 501 (CA49) 000 34-0 (BOTH) (VE) (VR)	-15.550	-11.700	25.550	-1.400	BREF 936.7000 IN.
[P32A04]	MSFC 501 (CA49) 000 34-0 (BOTH) (VE) (VR)	-4.310	-11.700	25.550	-1.630	YREF 1081.3000 IN.
[P32A05]	MSFC 501 (CA49) 000 34-0 (BOTH) (VE) (VR)	16.750	-11.700	25.550	-1.880	YREF 1081.3000 IN.
						SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)ALPHA = 30.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDRBK	AILRON	REFERENCE INFORMATION
(832A01)	PGC 531 (DA49) 03 34-0 (BCH) (VE)(VR)	-39.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
(832A02)	PGC 531 (DA49) 03 34-0 (BCH) (VE)(VR)	-23.840	-11.700	25.550	-1.240	LREF 481.6480 IN.
(832A03)	PGC 531 (DA49) 03 34-0 (BCH) (VE)(VR)	-15.550	-11.700	25.550	-1.400	BREF 936.7000 IN.
(832A04)	PGC 531 (DA49) 03 34-0 (BCH) (VE)(VR)	-4.310	-11.700	25.550	-1.630	XREF 1081.3500 IN.
(832A05)	PGC 531 (DA49) 03 34-0 (BCH) (VE)(VR)	16.790	-11.700	25.550	-1.880	YREF .0000 IN.
						ZREF .0040 IN.
						SCALE



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(CD) ALPHA = 35.00

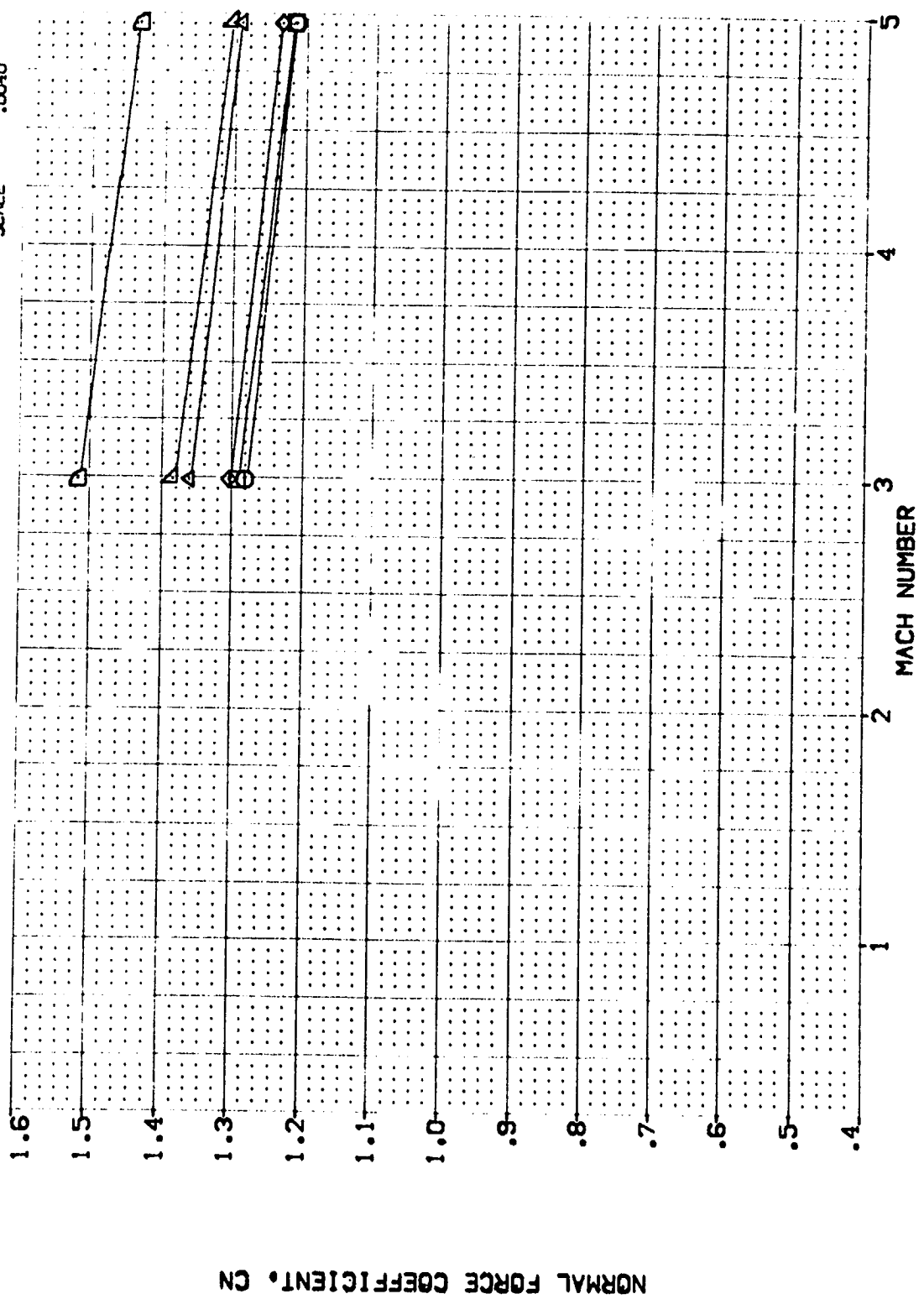


DATA SET SYMBOL: (822A01) (822A02) (822A03) (822A04) (822A05)

CONFIGURATION DESCRIPTION: MSFC 591(0A49) DBB 34-0 (BOTH) (VE)(VR) MSFC 591(0A49) DBB 34-0 (BOTH) (VE)(VR) MSFC 591(0A49) DBB 34-0 (BOTH) (VE)(VR) MSFC 591(0A49) DBB 34-0 (BOTH) (VE)(VR) MSFC 591(0A49) DBB 34-0 (BOTH) (VE)(VR)

ELEVTR BOFLAP SPOBRK AILTRON REFERENCE INFORMATION SQ: FT

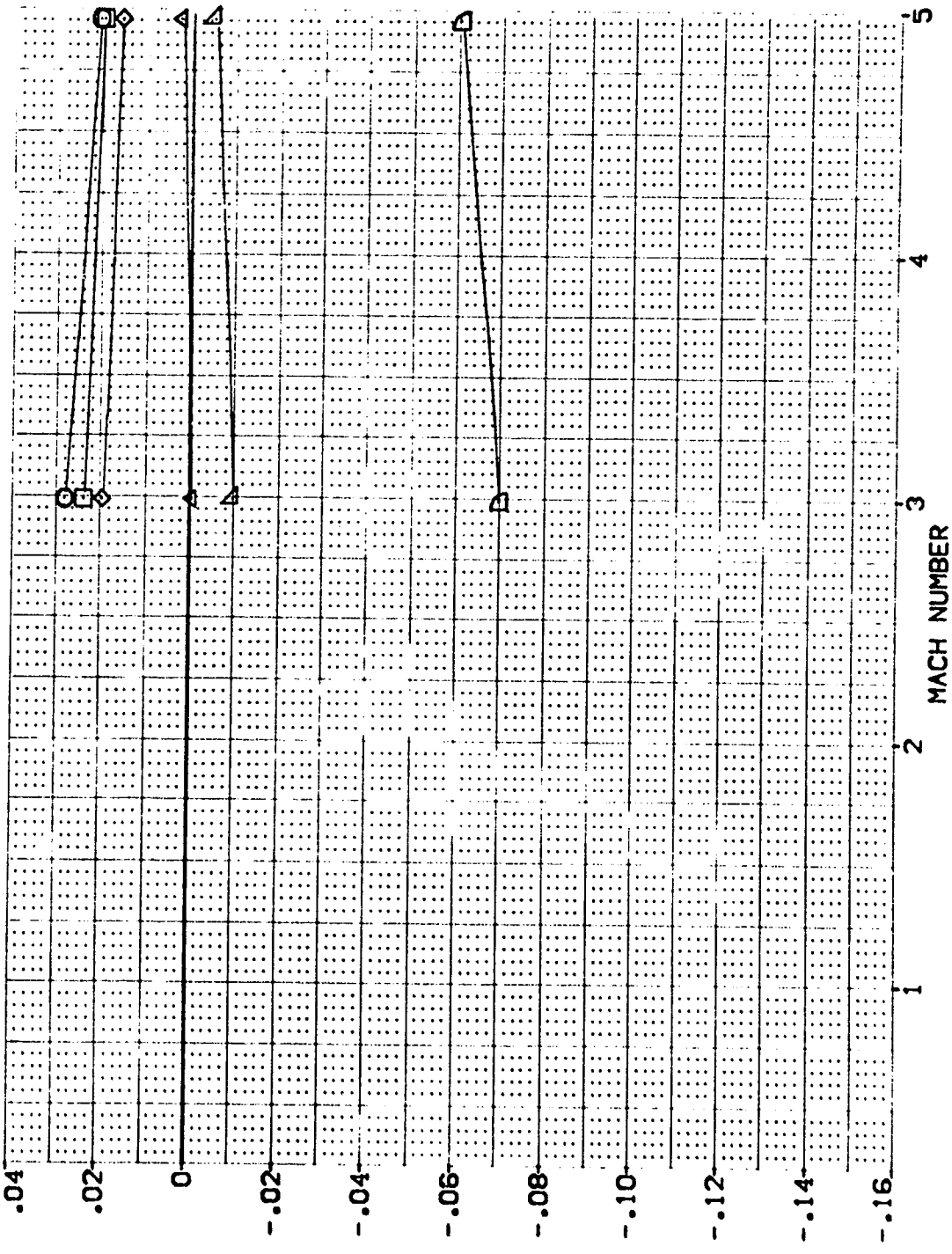
ELEVTR	BOFLAP	SPOBRK	AILTRON	SREF	LREF	BREF	XMRP	YMRP	ZMRP	SCALE
-33.650	-11.700	25.550	-1.320	2741.8000	481.6480	536.7000	1081.3500	.0000	.0000	.0010
-23.840	-11.700	25.550	-1.240							
-15.550	-11.700	25.550	-1.400							
-4.310	-11.700	25.550	-1.630							
15.750	-11.700	25.550	-1.680							



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C) ALPHA = 40.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDBRK	AILRON	REFERENCE INFORMATION
(832A01)	HSFC S81(OA49) CR3 34-0 (BOCH) (VE)(VR)	-23.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
(832A02)	HSFC S81(OA49) CR3 34-0 (BOCH) (VE)(VR)	-23.840	-11.700	25.550	-1.240	LRREF 481.6480 IN.
(832A03)	HSFC S81(OA49) CR3 34-0 (BOCH) (VE)(VR)	-15.550	-11.700	25.550	-1.400	BRREF 936.7000 IN.
(832A04)	HSFC S81(OA49) CR3 34-0 (BOCH) (VE)(VR)	-4.310	-11.700	25.550	-1.630	XRREF 1081.2900 IN.
(832A05)	HSFC S81(OA49) CR3 34-0 (BOCH) (VE)(VR)	16.790	-11.700	25.550	-1.680	YRREF .0000 IN.
						ZRREF .0000 IN.
						SCALE .0040



PITCHING MOMENT COEFFICIENT, C_m

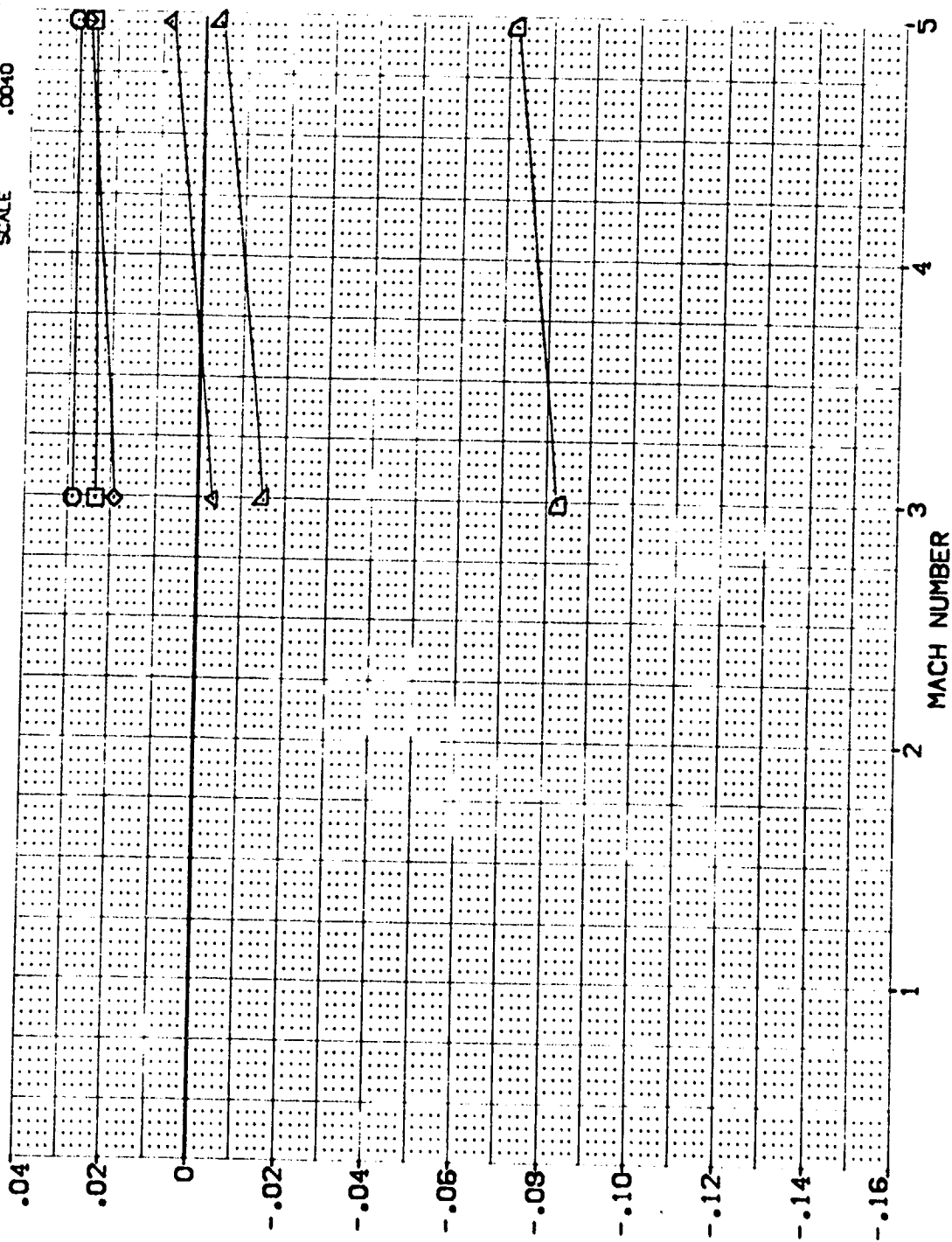
INTERPOLATED ZERO ELEVON CHARACTERISTICS

CALPHA = 20.00

PITCHING MOMENT COEFFICIENT, CLM

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (832A01) NSFC 501 (0A49) 003 34-0 (BOTH) (VE)(VR)
 (832A17) NSFC 501 (0A49) 003 34-0 (BOTH) (VE)(VR)
 (832A02) NSFC 501 (0A49) 003 34-0 (BOTH) (VE)(VR)
 (832A03) NSFC 501 (0A49) 003 34-0 (BOTH) (VE)(VR)
 (832A04) NSFC 501 (0A49) 003 34-0 (BOTH) (VE)(VR)
 (832A05) NSFC 501 (0A49) 003 34-0 (BOTH) (VE)(VR)

ELEVTR 33.650
 -23.840
 -15.550
 -4.310
 16.790
 BOFLAP -1.700
 -1.700
 -1.700
 -1.700
 -1.700
 SPOBRK 25.550
 25.550
 25.550
 25.550
 25.550
 AIRLON -.320
 -.240
 -.100
 -.630
 -1.680
 REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BRFF 936.7000
 XMRP 1081.3900
 YMRP .0000
 ZMRP .0000
 SCALE .0040
 SQ. FT
 IN.
 IN.
 IN.
 IN.
 IN.

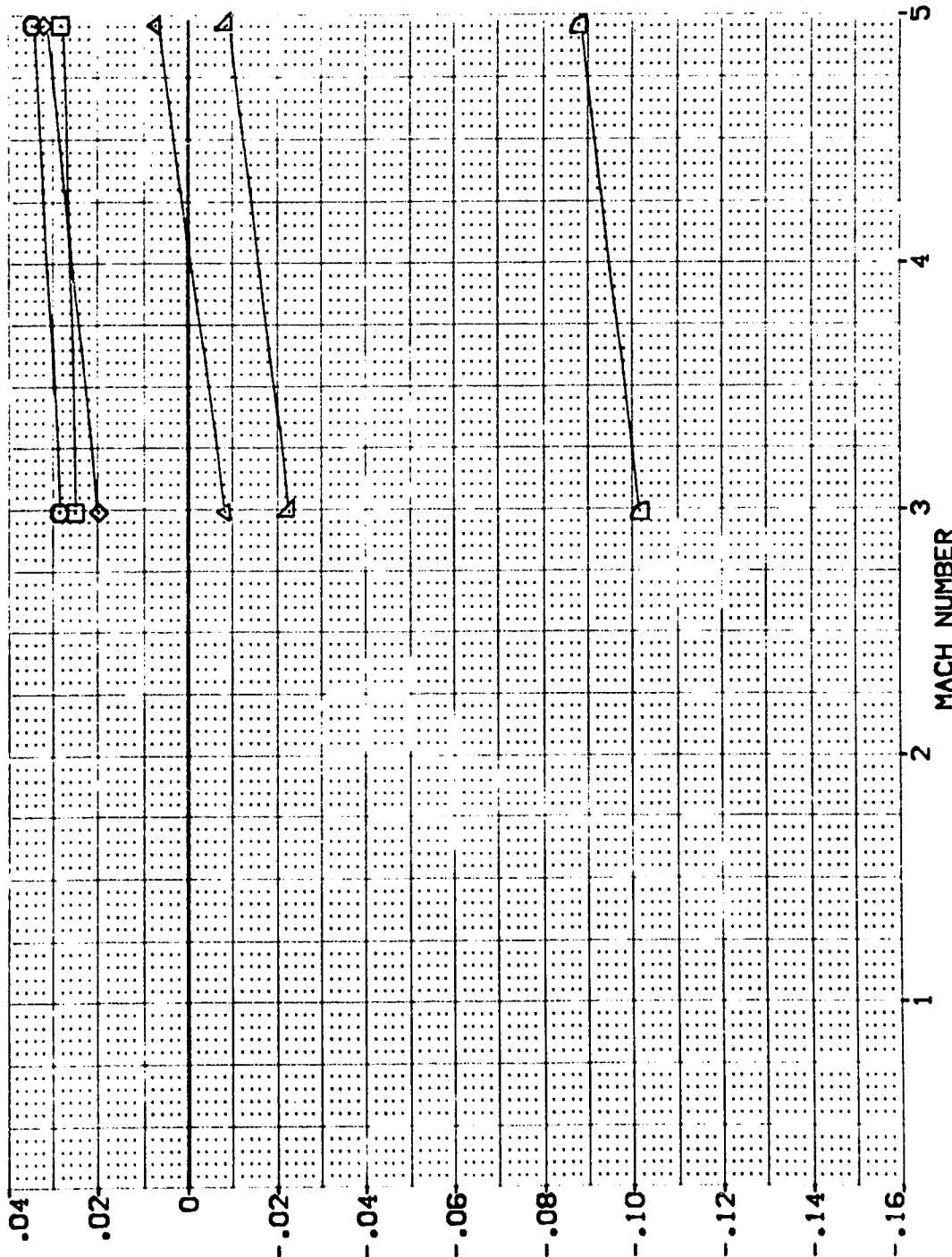


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)ALPHA = 25.00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILTRN	REFERENCE INFORMATION	SO. FT
[822A01]	MSFC 581(OA49) DB 3A-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-1.700	SREF 2741.8000	IN.
[83A117]	MSFC 581(OA49) DB 3A-0 (BCFM) (VE)(VR)	-23.840	-11.700	25.550	-1.700	LREF 481.6480	IN.
[822A02]	MSFC 581(OA49) DB 3A-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-1.700	BREF 936.7000	IN.
[822A03]	MSFC 581(OA49) DB 3A-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-1.700	XMRP 1081.3900	IN.
[832A04]	MSFC 581(OA49) DB 3A-0 (BCFM) (VE)(VR)	.000	-11.700	25.550	-1.700	ZMRP .0000	IN.
[832A05]	MSFC 581(OA49) DB 3A-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	SCALE .0040	



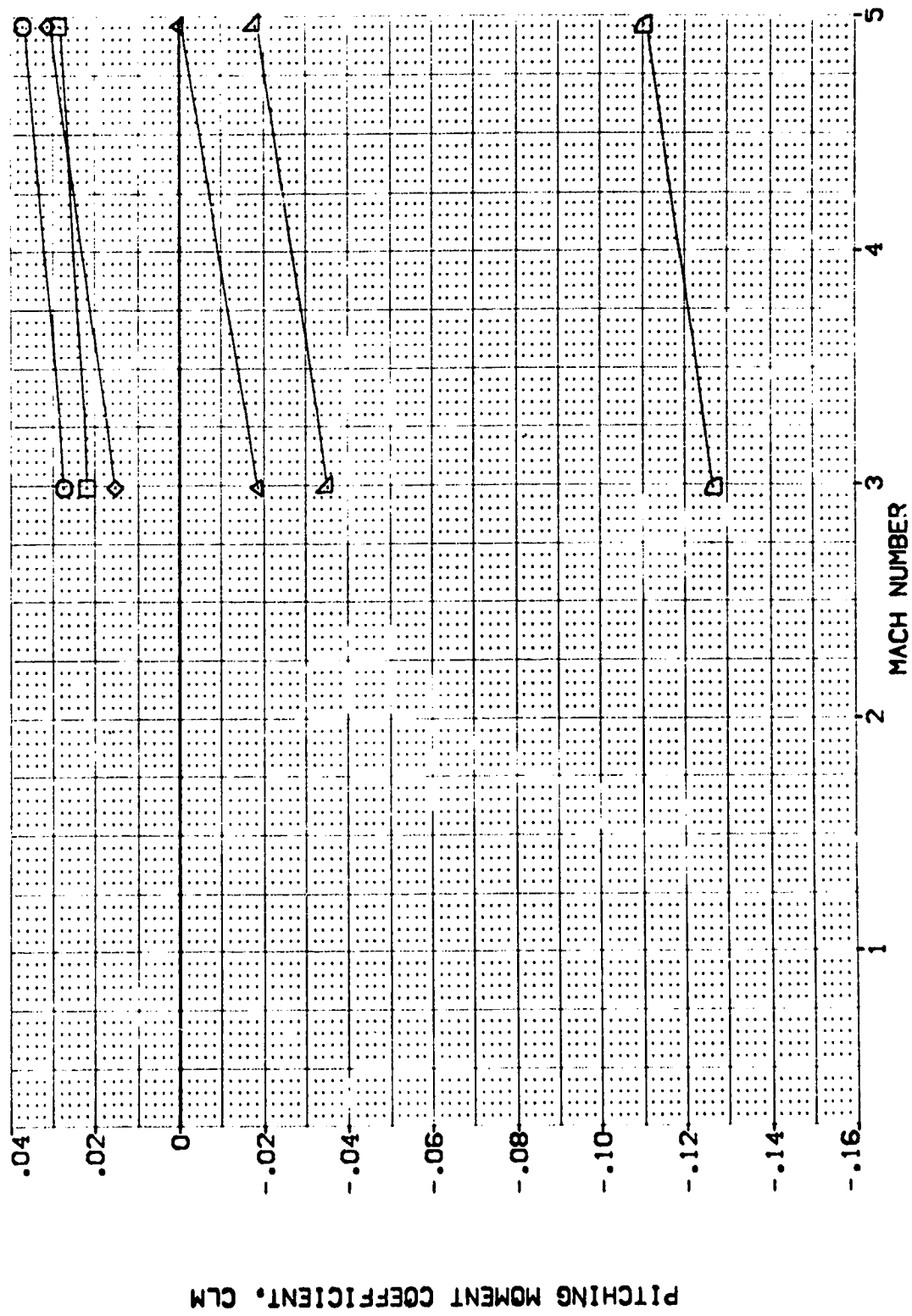
PITCHING MOMENT COEFFICIENT, CLM

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(CJALPHA = 30.00



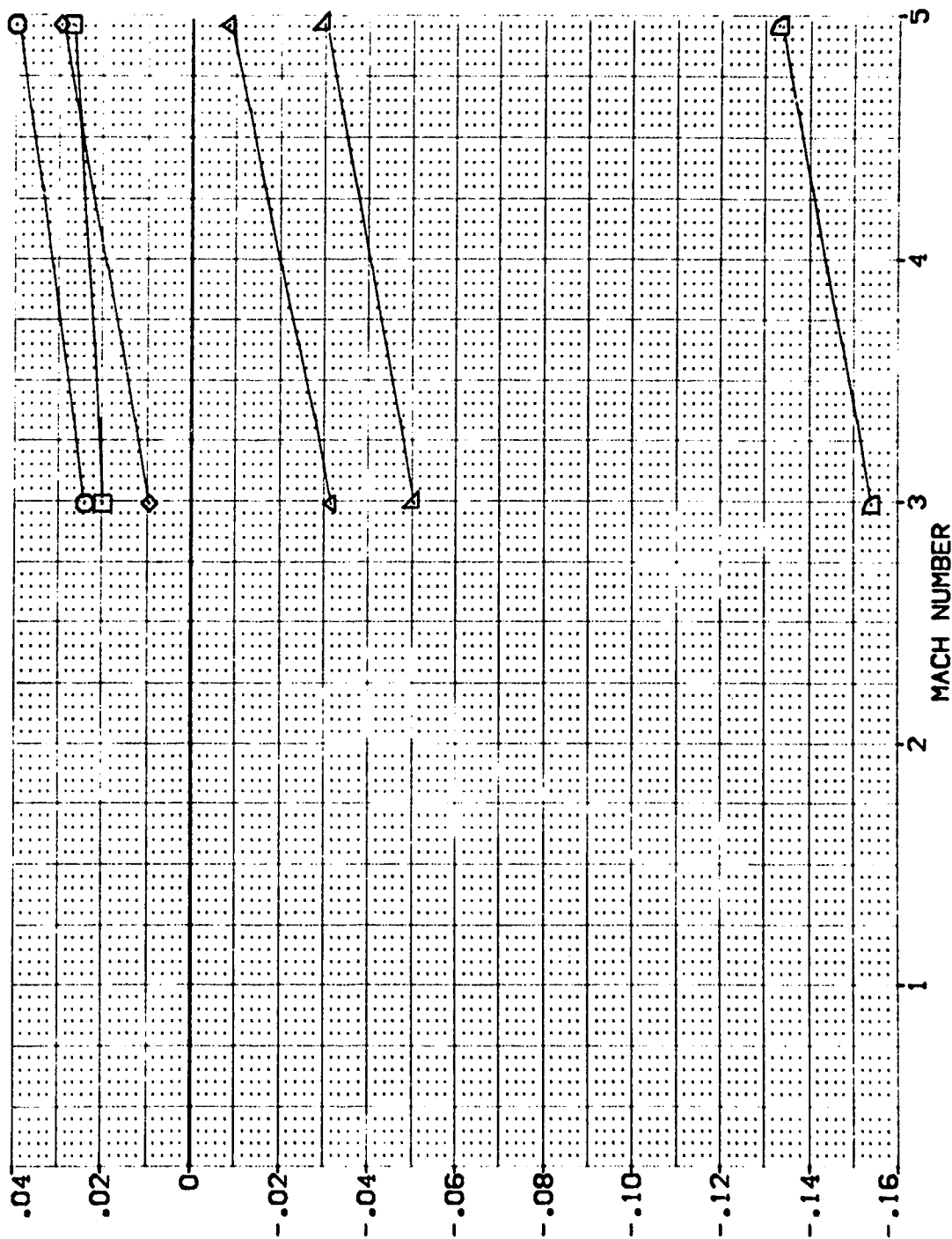
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(092A01)	MSFC 581(CA49) CRB 34-0 (BDTH) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(092A02)	MSFC 531(CA49) CRB 34-0 (BDTH) (VE)(VR)	-23.840	-11.700	25.550	-0.240	LREF 481.6480 IN.
(092A03)	MSFC 531(CA49) CRB 34-0 (BDTH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
(092A04)	MSFC 581(CA49) CRB 34-0 (BDTH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	YMRP 1081.3900 IN.
(092A05)	MSFC 581(CA49) CRB 34-0 (BDTH) (VE)(VR)	16.750	-11.700	25.550	-1.880	ZMRP 0.0000 IN.
						SCALE 0.0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(D) ALPHA = 35.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(892A01)	MSFC 581(0A49) DB 34-0 (BOFM) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(83A117)	MSFC 581(0A49) DB 34-0 (BOFM) (VE)(VR)	-23.840	-11.700	25.550	-0.240	LREF 481.6480 IN.
(832A02)	MSFC 581(0A49) DB 34-0 (BOFM) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
(832A03)	MSFC 581(0A49) DB 34-0 (BOFM) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XREF 1081.3800 IN.
(832A04)	MSFC 581(0A49) DB 34-0 (BOFM) (VE)(VR)	0.000	-11.700	25.550	-0.000	YREF 0.0000 IN.
(892A05)	MSFC 581(0A49) DB 34-0 (BOFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZREF 0.0040 IN.



PITCHING MOMENT COEFFICIENT, C_{LM}

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)ALPHA = 40.00

CENTER OF PRESSURE LOCATION BASED ON BODY LENGTH, XCP/L

DATA SET SYMBOL CONFIGURATION DESCRIPTION

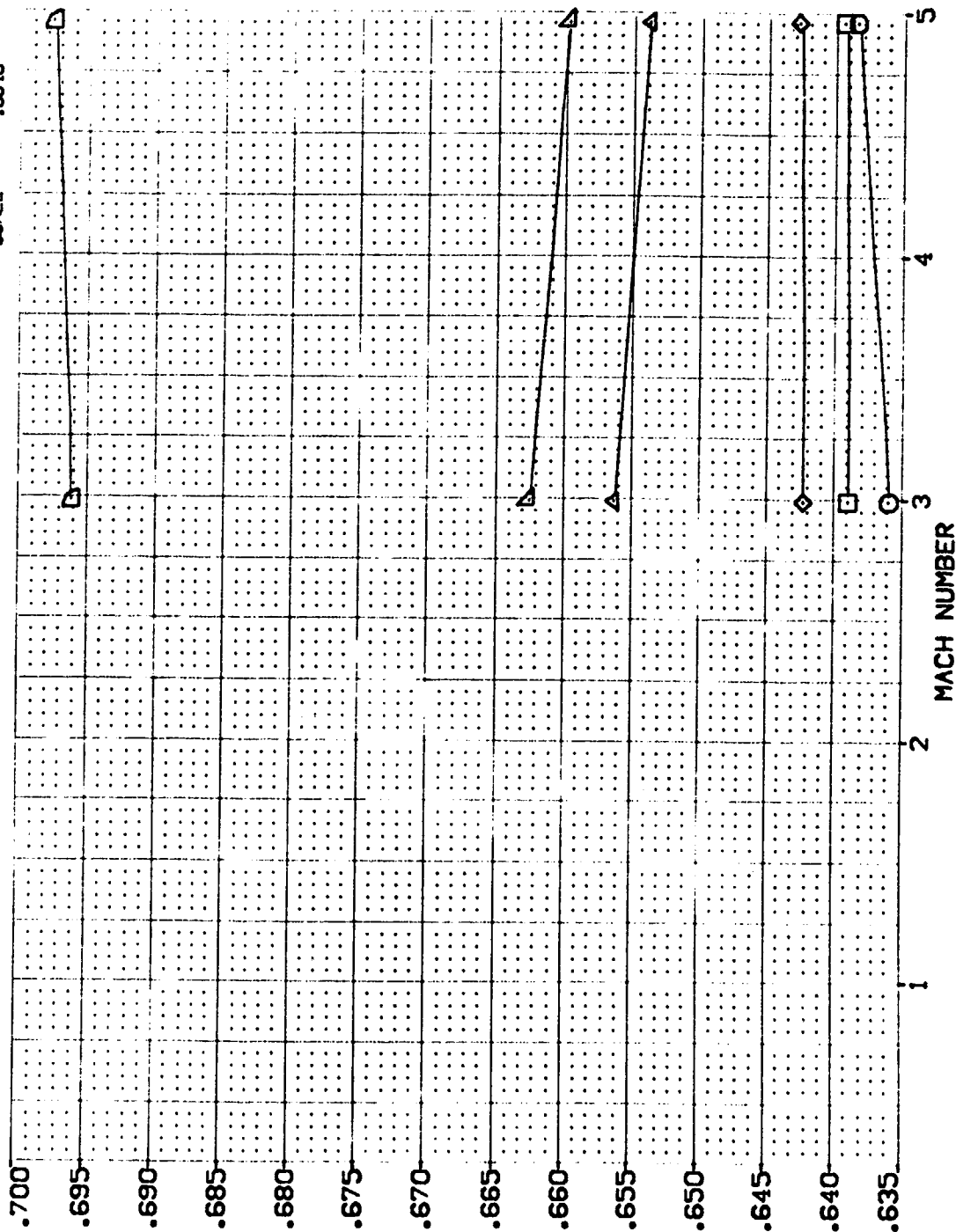
(822A01)	MSFC 581(DA49) 033 34-0 (BDTH) (VE)(VR)
(82A117)	MSFC 531(DA49) 033 34-0 (BDTH) (VE)(VR)
(822A02)	MSFC 531(DA49) 033 34-0 (BDTH) (VE)(VR)
(822A03)	MSFC 531(DA49) 033 34-0 (BDTH) (VE)(VR)
(822A04)	MSFC 531(DA49) 033 34-0 (BDTH) (VE)(VR)
(822A05)	MSFC 581(DA49) 033 34-0 (BDTH) (VE)(VR)

ELEVTR BOFLAP SPOBRK AILTRON

-33.650	-11.700	25.550	-1.320
-23.840	-11.700	25.550	-1.240
-15.550	-11.700	25.550	-1.400
-4.310	-11.700	25.550	-1.630
16.790	-11.700	25.550	-1.680

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	536.7000	IN.
XMRP	1081.0000	IN.
YMRP	1000.0000	IN.
ZMRP	1000.0000	IN.
SCALE	1.0040	

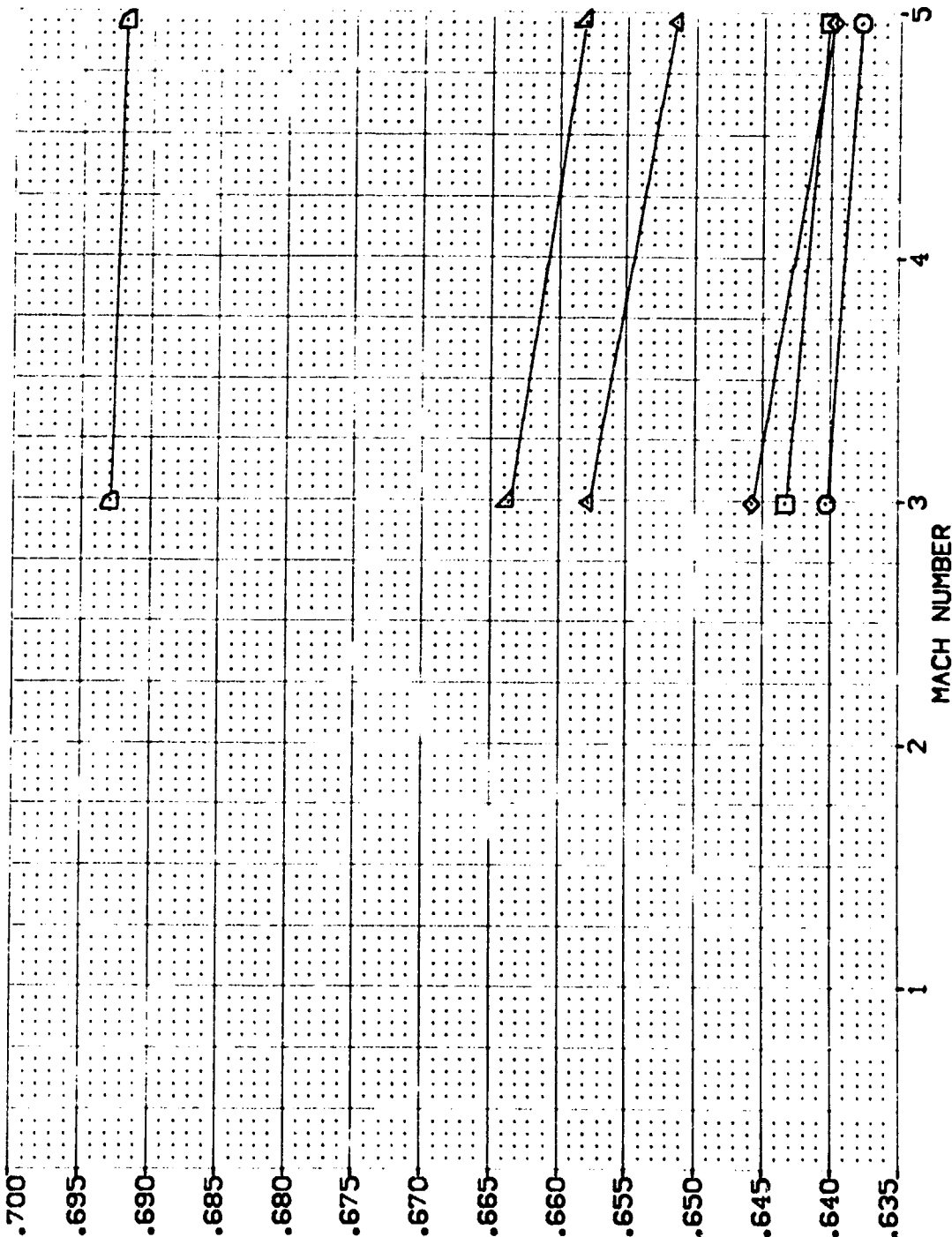


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(A) ALPHA = 20.00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	SOFLAP	SPDRK	AIRLON	REFERENCE INFORMATION
(PS2A01)	MSFC 501 (CA49) CR3 34-0 (BOTH) (VE)(VR)	-23.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(CA117)	MSFC 501 (CA49) CR3 34-0 (BOTH) (VE)(VR)	-23.840	-11.700	25.550	-240	LREF 481.6480 IN.
(CA202)	MSFC 501 (CA49) CR3 34-0 (BOTH) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
(CA103)	MSFC 501 (CA49) CR3 34-0 (BOTH) (VE)(VR)	-4.310	-11.700	25.550	-630	XPRP 1081.2500 IN.
(CA204)	MSFC 501 (CA49) CR3 34-0 (BOTH) (VE)(VR)	.000	-11.700	25.550	-1.680	YPRP .0000 IN.
(PS2A05)	MSFC 501 (CA49) CR3 34-0 (BOTH) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZPRP .0040 IN.
						SCALE



CENTER OF PRESSURE LOCATION BASED ON BODY LENGTH, XCP/L

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B) ALPHA = 25.00

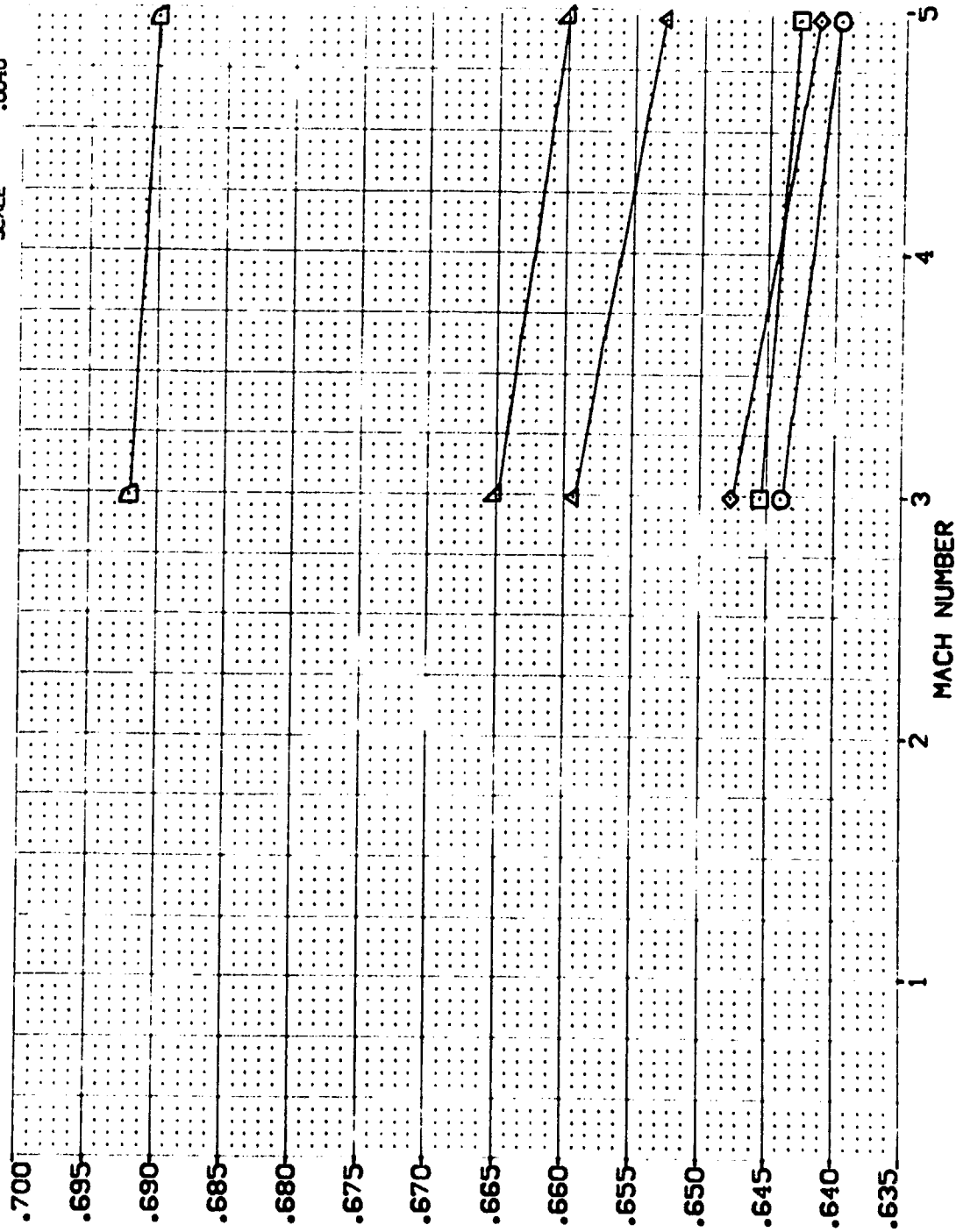
DATA SET SYMBOL

CONFIGURATION DESCRIPTION

1822A01] 591 (DA19) 023 34-0 (BOTH) (VE)(VR)
 1822A02] 591 (CA19) 023 34-0 (BOTH) (VE)(VR)
 1822A03] 591 (DA19) 023 34-0 (BOTH) (VE)(VR)
 1822A04] 591 (DA19) 023 34-0 (BOTH) (VE)(VR)
 1822A05] 591 (DA19) 023 34-0 (BOTH) (VE)(VR)

ELEVTR BOFLAP SPOBRK AILRON
 -33.650 -11.700 25.550 -1.370
 -23.840 -11.700 25.550 -1.240
 -15.550 -11.700 25.550 -1.400
 -4.310 -11.700 25.550 -1.630
 16.750 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



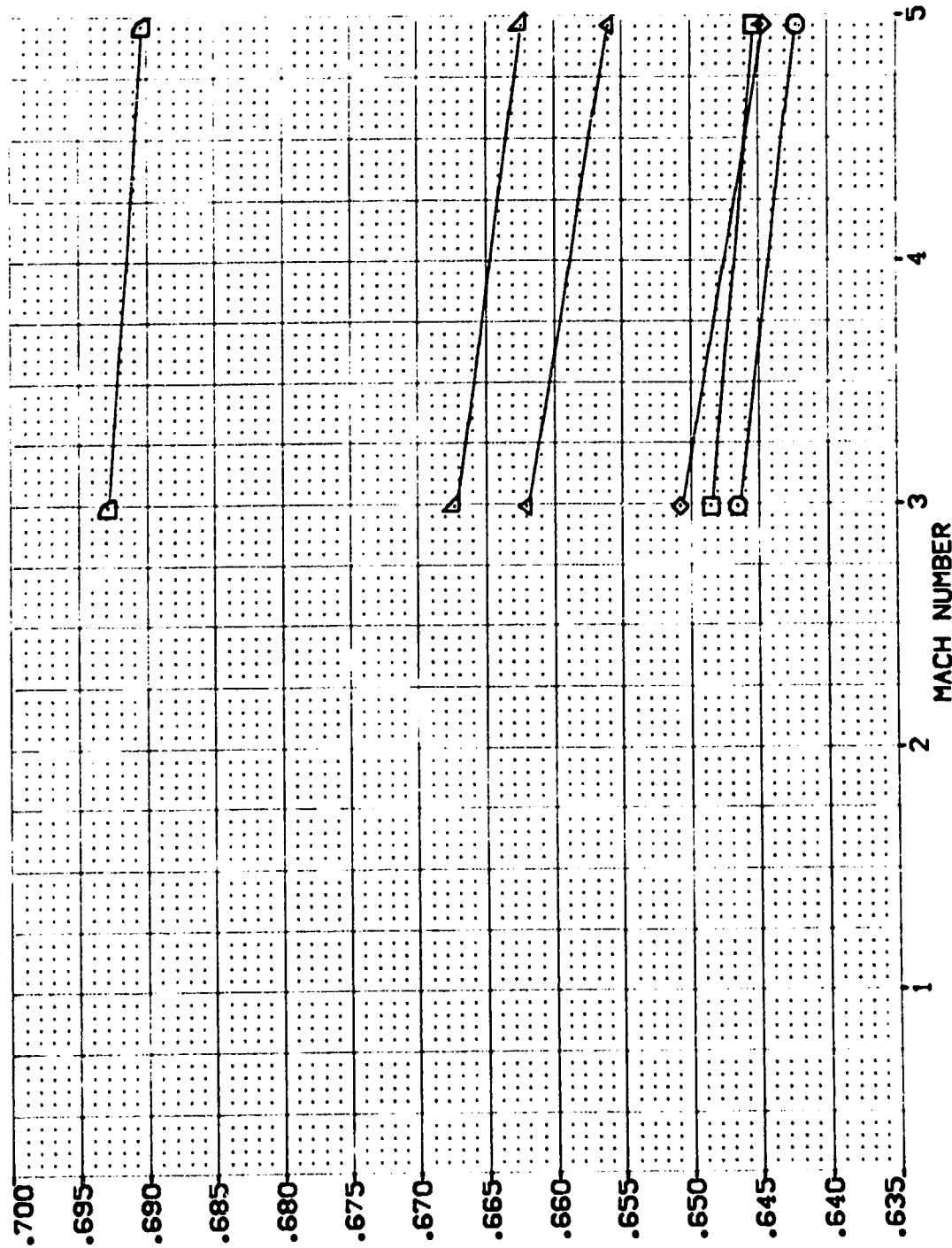
CENTER OF PRESSURE LOCATION BASED ON BODY LENGTH, XCP/L

INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)ALPHA = 30.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPDRBK	AIRLON	REFERENCE INFORMATION
(822A01)	MSC 581(OA9) 0-3 34-0 (BDN) (VE)(VR)	-20.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(822A17)	MSC 581(OA9) 0-3 34-0 (BDN) (VE)(VR)	-23.840	-11.700	25.550	-240	LREF 481.6480 IN.
(822A02)	MSC 581(OA9) 0-3 34-0 (BDN) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
(822A03)	MSC 581(OA9) 0-3 34-0 (BDN) (VE)(VR)	-4.310	-11.700	25.550	-630	XMRP 1081.3500 IN.
(822A04)	MSC 581(OA9) 0-3 34-0 (BDN) (VE)(VR)	0.000	-11.700	25.550	-1.680	ZMRP .0000 IN.
(822A05)	MSC 581(OA9) 0-3 34-0 (BDN) (VE)(VR)	16.790	-11.700	25.550	-1.680	SCALE .0040

CENTER OF PRESSURE LOCATION BASED ON BODY LENGTH, XCP/L



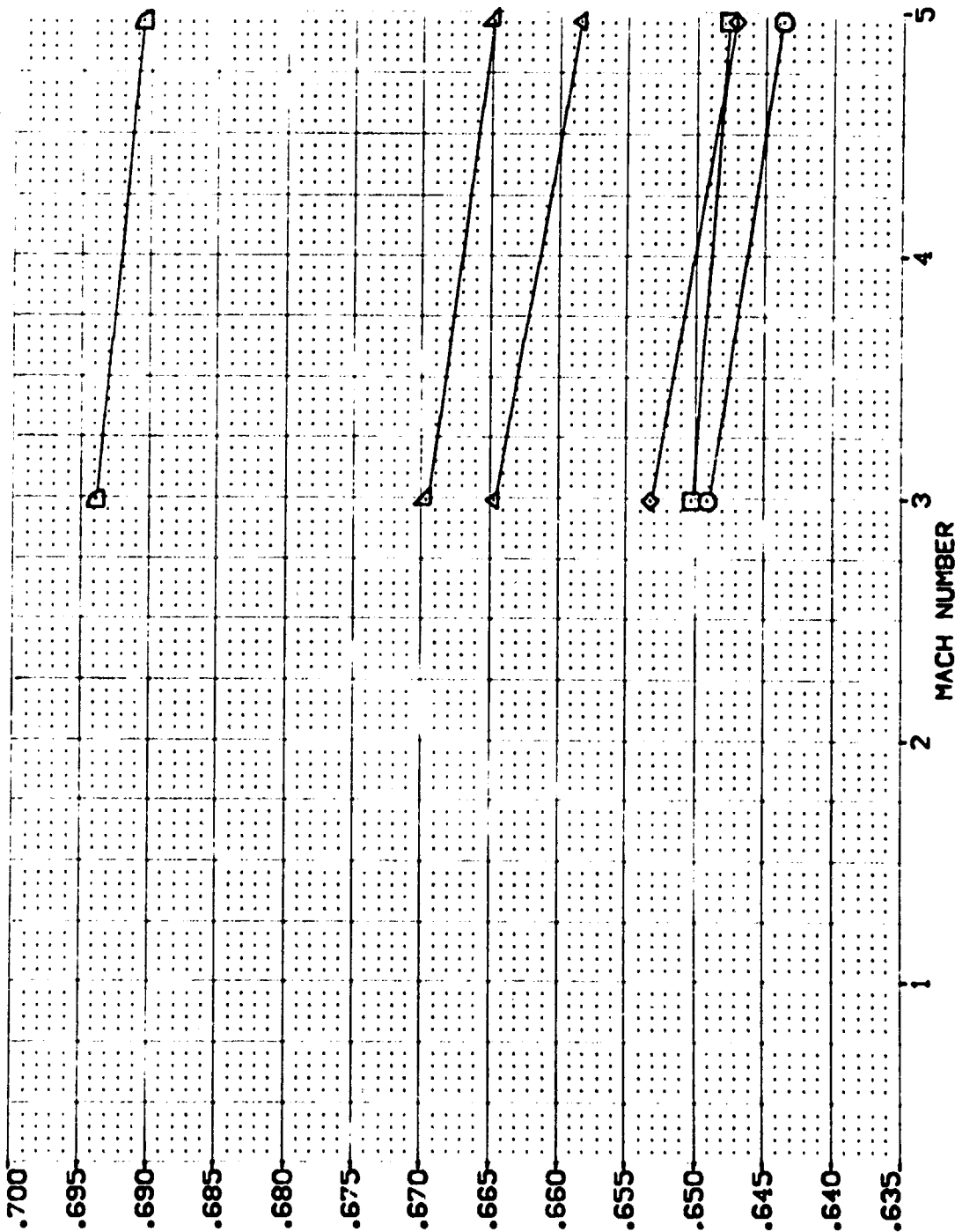
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(CD)ALPHA = 35.00

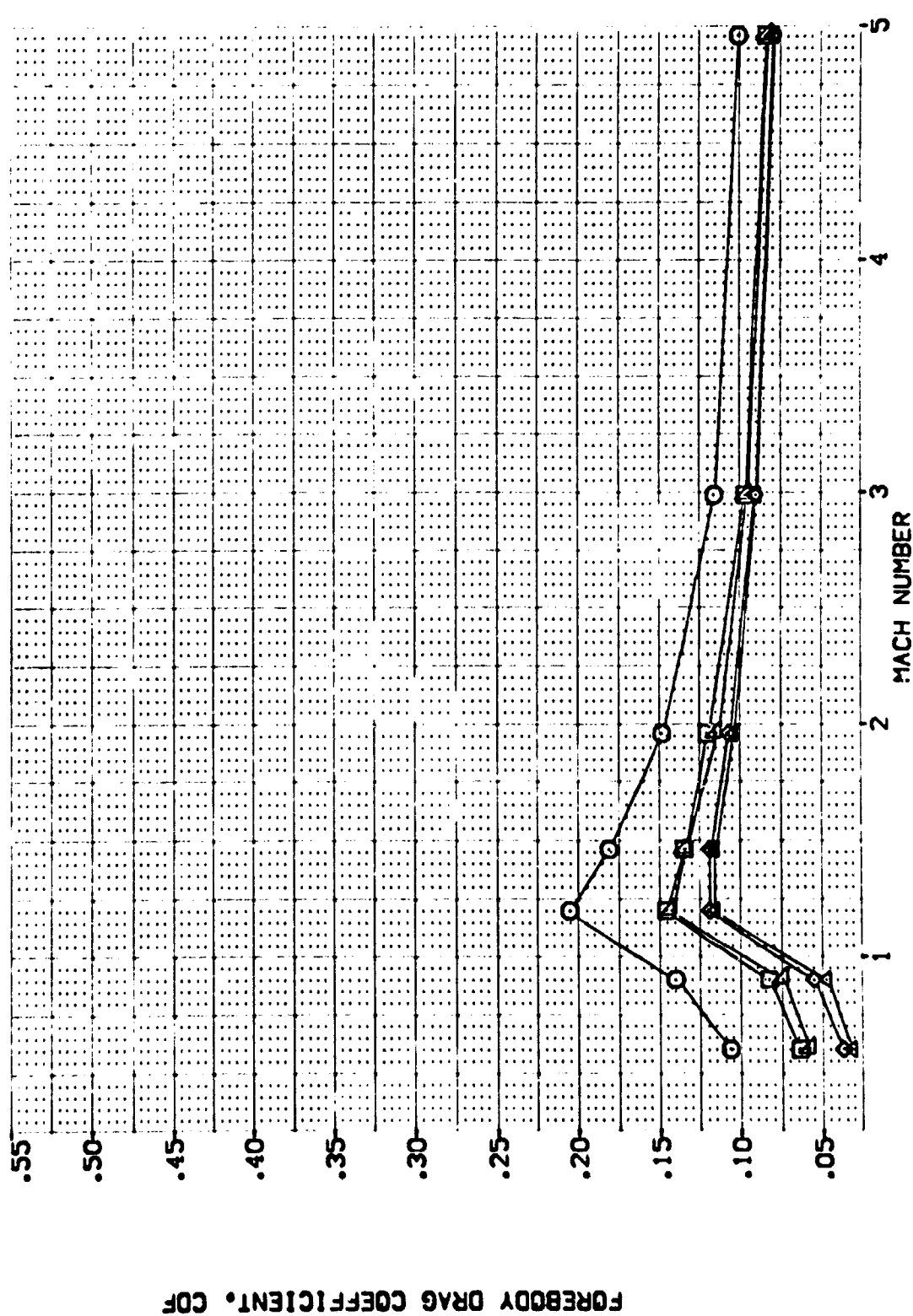


CENTER OF PRESSURE LOCATION BASED ON BODY LENGTH, XCP/L

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDBRK	AILRON	REFERENCE INFORMATION
(E2A01)	030 34-0 (BDTH) (VE)(VR)	-23.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(E2A117)	030 34-0 (BDTH) (VE)(VR)	-23.640	-11.700	25.550	-0.240	LREF 481.6480 IN.
(E2A102)	030 34-0 (BDTH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
(E2A103)	030 34-0 (BDTH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XREF 1081.3900 IN.
(E2A104)	030 34-0 (BDTH) (VE)(VR)	0.000	-11.700	25.550	-1.000	YREF 0.0000 IN.
(E2A105)	030 34-0 (BDTH) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZREF 0.0000 IN.
						SCALE .0040



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPOBRK	AIRLUN	REFERENCE INFORMATION
(732001)	MS-C 581(OA45) 088 34-0 (BDCH) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(732002)	MS-C 581(OA45) 088 34-0 (BDCH) (VE)(VR)	-15.550	-11.700	25.550	-400	LREF 481.6480 IN.
(732003)	MS-C 581(OA45) 088 34-0 (BDCH) (VE)(VR)	-4.310	-11.700	25.550	-630	BREF 936.7000 IN.
(732004)	MS-C 581(OA45) 088 34-0 (BDCH) (VE)(VR)	0.000	-11.700	25.550	-1.680	APREF 1081.3500 IN.
(732005)	MS-C 581(OA45) 088 34-0 (BDCH) (VE)(VR)	16.750	-11.700	25.550	-1.680	TPREF .0000 IN.
						SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(A)ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

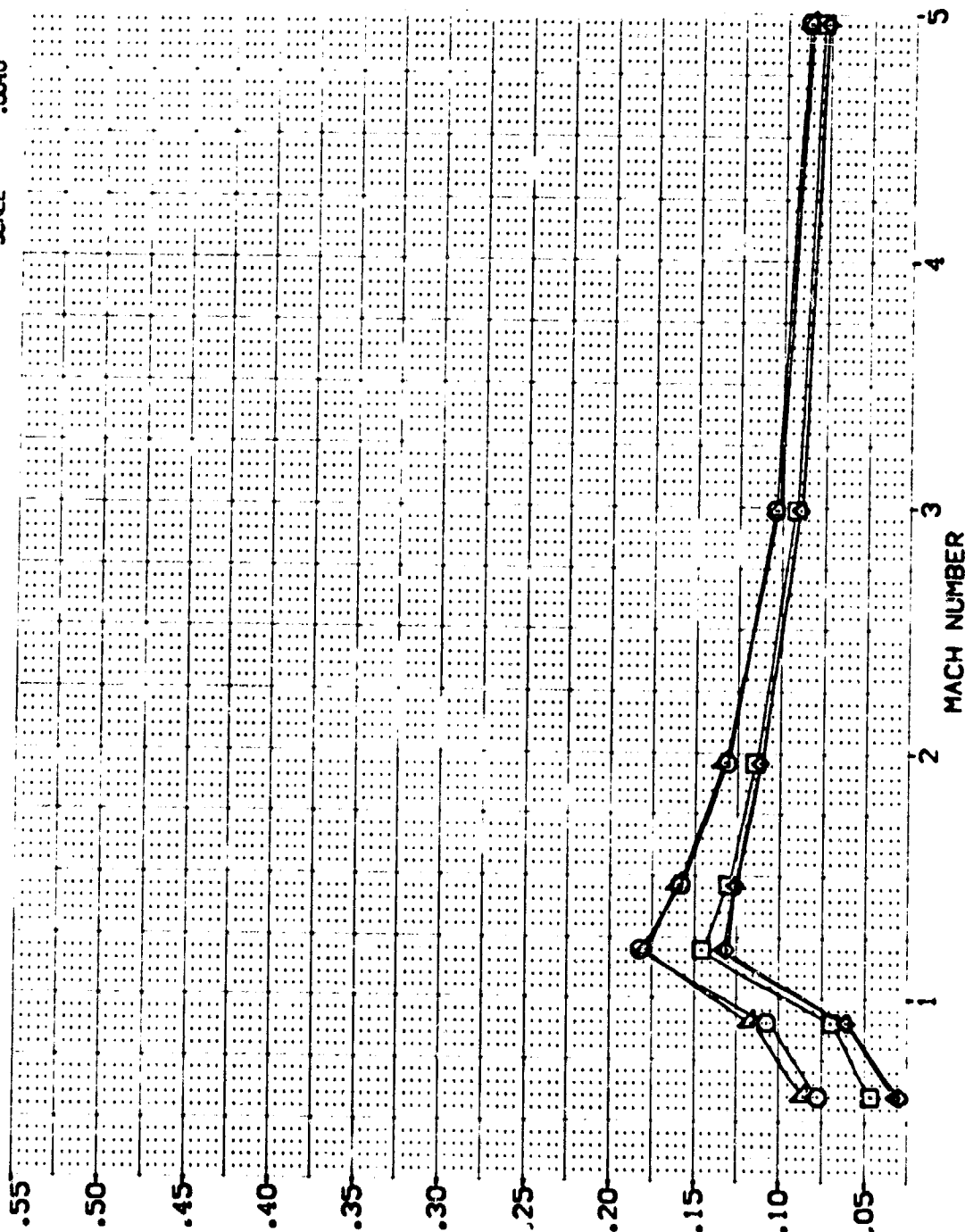
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	REF	INFO
(752001)	000 34-0 (BDTH) (VE)(VR)	2741.8000	50. FT
(752002)	000 34-0 (BDTH) (VE)(VR)	481.6480	IN.
(752003)	000 34-0 (BDTH) (VE)(VR)	936.7000	IN.
(752004)	000 34-0 (BDTH) (VE)(VR)	1081.3500	IN.
(752005)	000 34-0 (BDTH) (VE)(VR)	1081.3500	IN.

ELEVTR BOFLAP SPOBRK AIRRON

ELEVTR	BOFLAP	SPOBRK	AIRRON
-39.650	-11.700	25.550	-320
-15.550	-11.700	25.550	-400
-4.310	-11.700	25.550	-630
16.790	-11.700	25.550	-1.680

SCALE .0010

FOREBODY DRAG COEFFICIENT, CDF

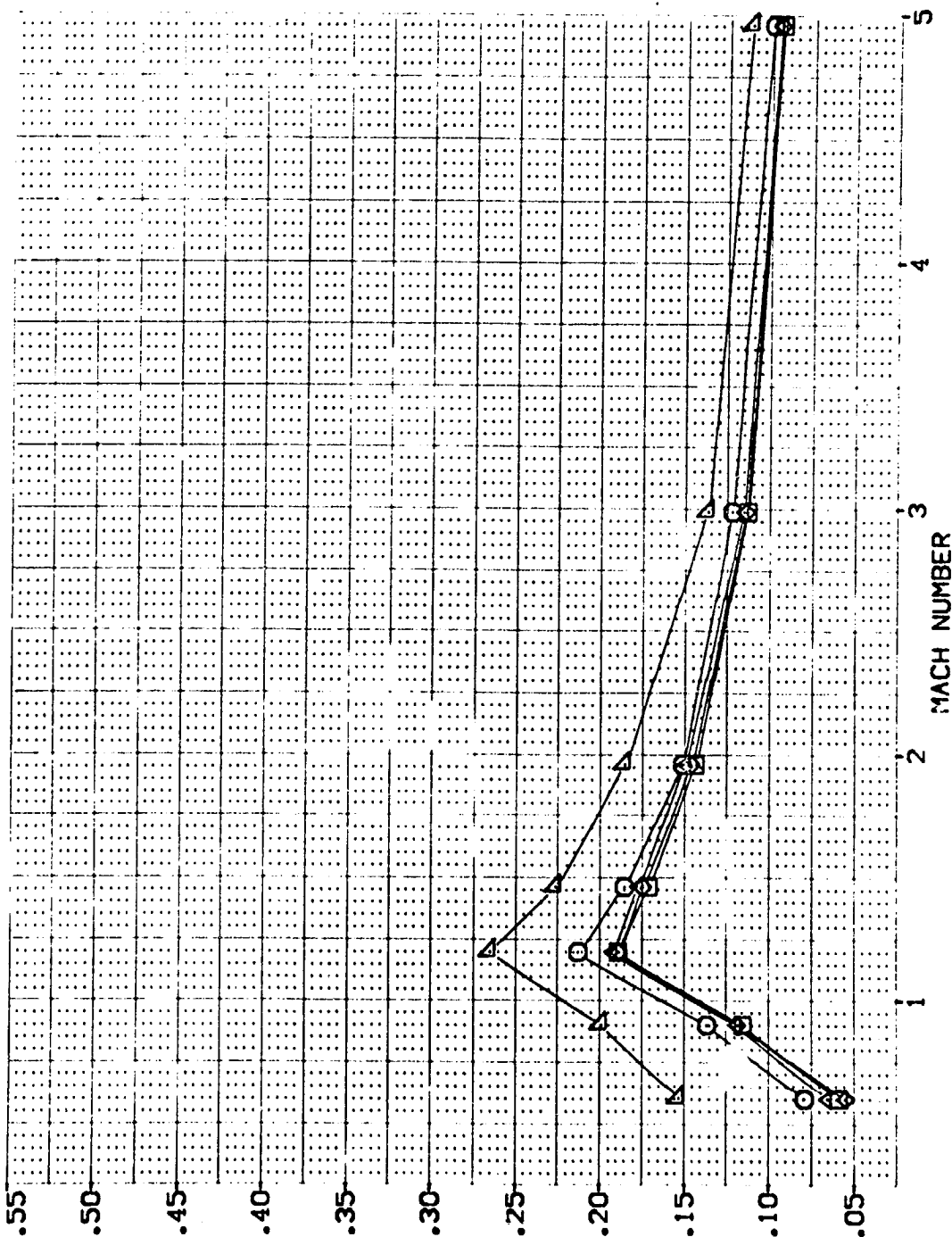


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)ALPHA = 5.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDRBK	AILRON	REFERENCE INFORMATION	SO. FT
[792001]	MSFC 581(DA19) CR3 34-0 (BOFM) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000	IN.
[792002]	MSFC 581(DA19) CR3 34-0 (BOFM) (VE)(VR)	-15.550	-11.700	25.550	-400	LREF 481.6480	IN.
[792003]	MSFC 531(DA19) CR3 34-0 (BOFM) (VE)(VR)	-4.310	-11.700	25.550	-630	BRF 956.7000	IN.
[792004]	MSFC 581(DA19) CR3 34-0 (BOFM) (VE)(VR)	.000	-11.700	25.550	-1.680	YMRP 1081.3500	IN.
[792005]	MSFC 581(DA19) CR3 34-0 (BOFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZMRP .0000	IN.
						SCALE .0040	

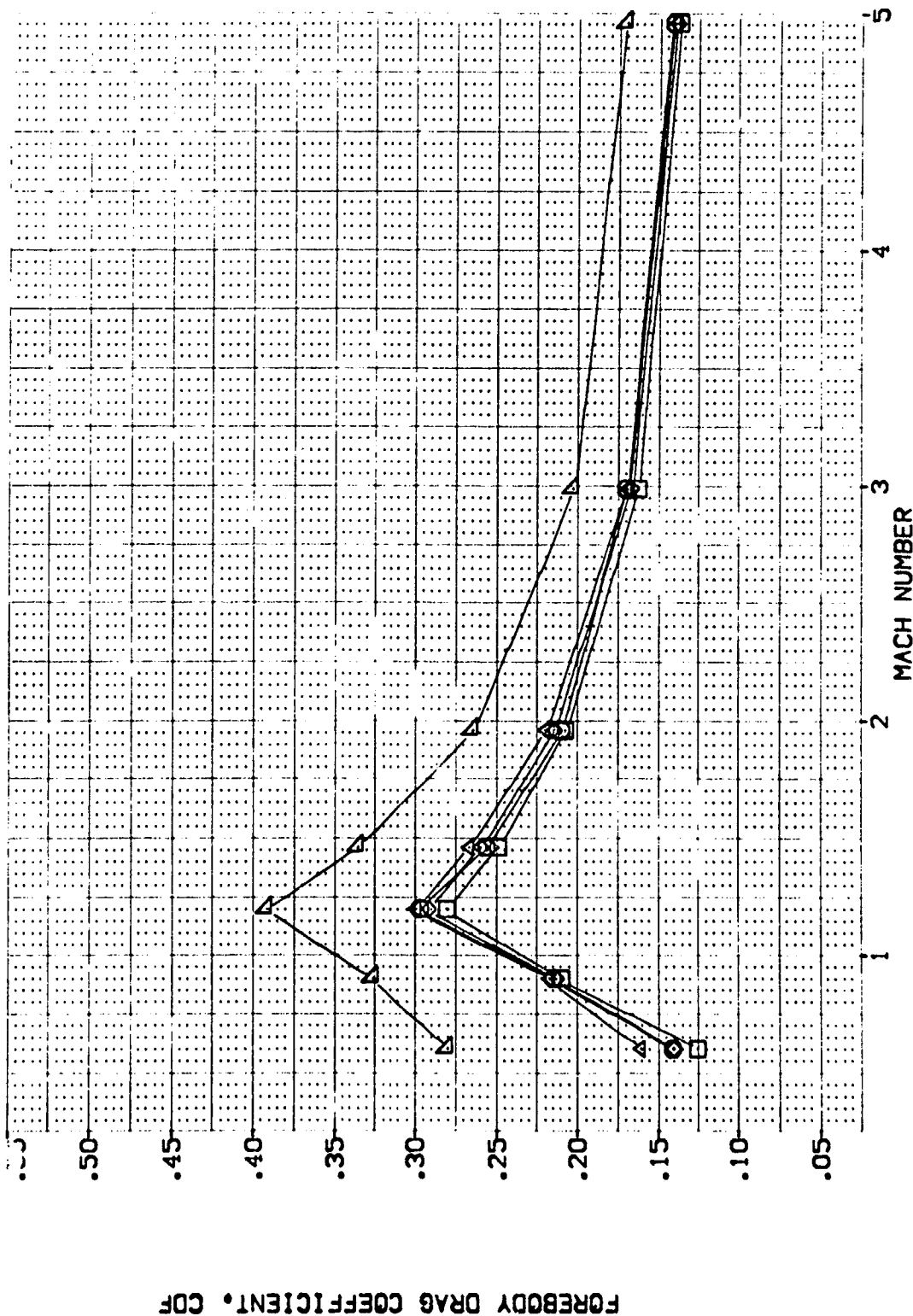
FOREBODY DRAG COEFFICIENT, CDF



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C)ALPHA = 10.00

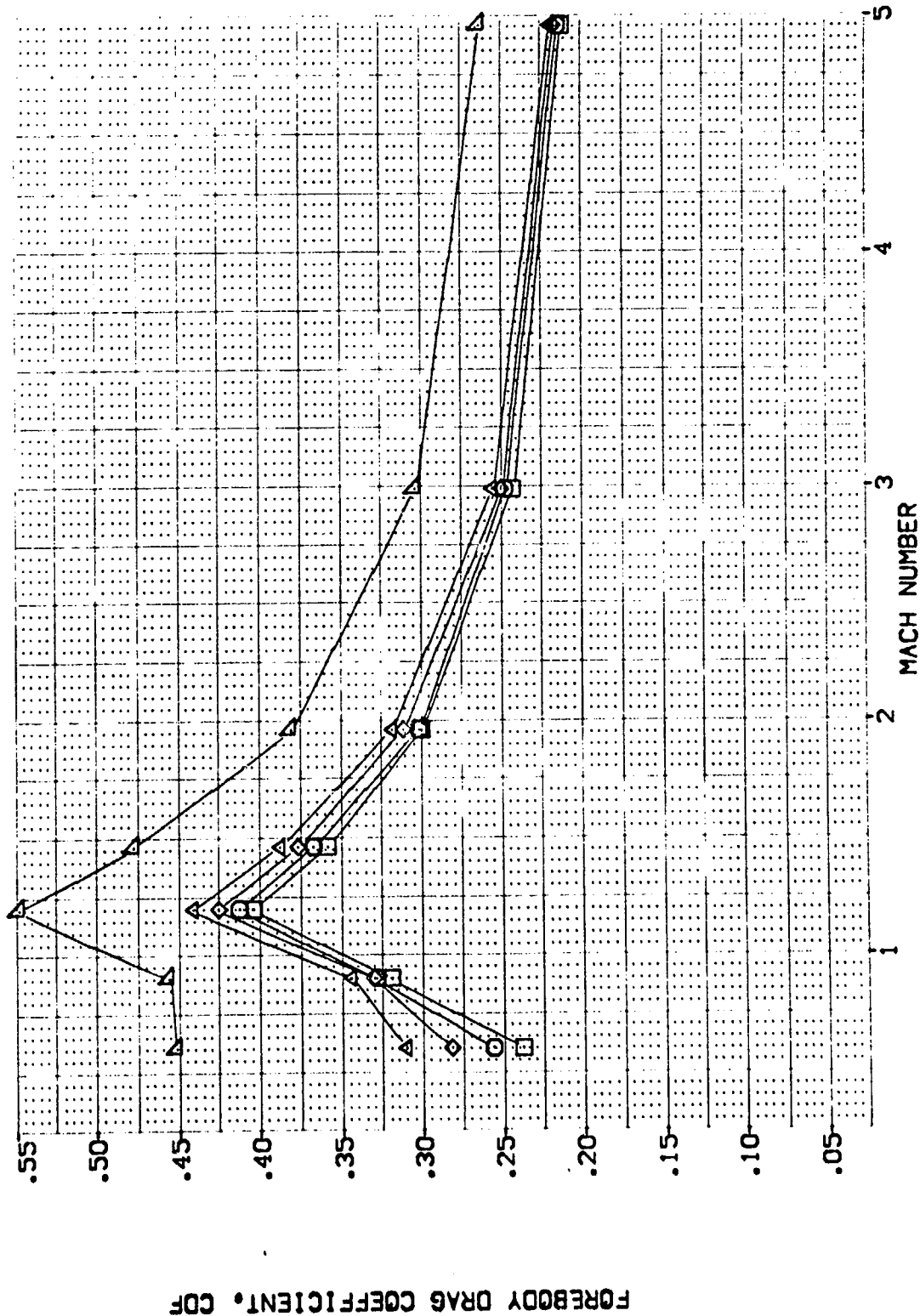
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(792001)	MSFC 501 (DA49) DB 34-0 (BDH) (WE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(792002)	MSFC 501 (DA49) DB 34-0 (BDH) (WE)(VR)	-15.550	-11.700	25.550	-400	LREF 481.6480 IN.
(792003)	MSFC 501 (DA49) DB 34-0 (BDH) (WE)(VR)	-4.310	-11.700	25.550	-630	BREF 536.7000 IN.
(792004)	MSFC 501 (DA49) DB 34-0 (BDH) (WE)(VR)	.000	-11.700	25.550	-1.680	XMRP 1081.3500 IN.
(792005)	MSFC 561 (DA49) DB 34-0 (BDH) (WE)(VR)	16.750	-11.700	25.550	-1.680	YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(COALPHA = 15.00)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDBRK	AILTRON	REFERENCE INFORMATION	SO: FT
{792001}	MSFC S81(OA49) C73 34-0 (BOFM) (VE)(VR)	-39.650	-11.700	25.550	-1.320	SREF	2741.9000
{792002}	MSFC S81(OA49) C73 34-0 (BOFM) (VE)(VR)	-15.550	-11.700	25.550	-1.400	LREF	481.6480
{792003}	MSFC S81(OA49) C73 34-0 (BOFM) (VE)(VR)	-4.310	-11.700	25.550	-1.630	BREF	936.7000
{792004}	MSFC S81(OA49) C73 34-0 (BOFM) (VE)(VR)	.000	-11.700	25.550	-1.680	XMRP	1081.3900
{792005}	MSFC S81(OA49) C73 34-0 (BOFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	YMRP	.0000
						ZMRP	.0040
						SCALE	



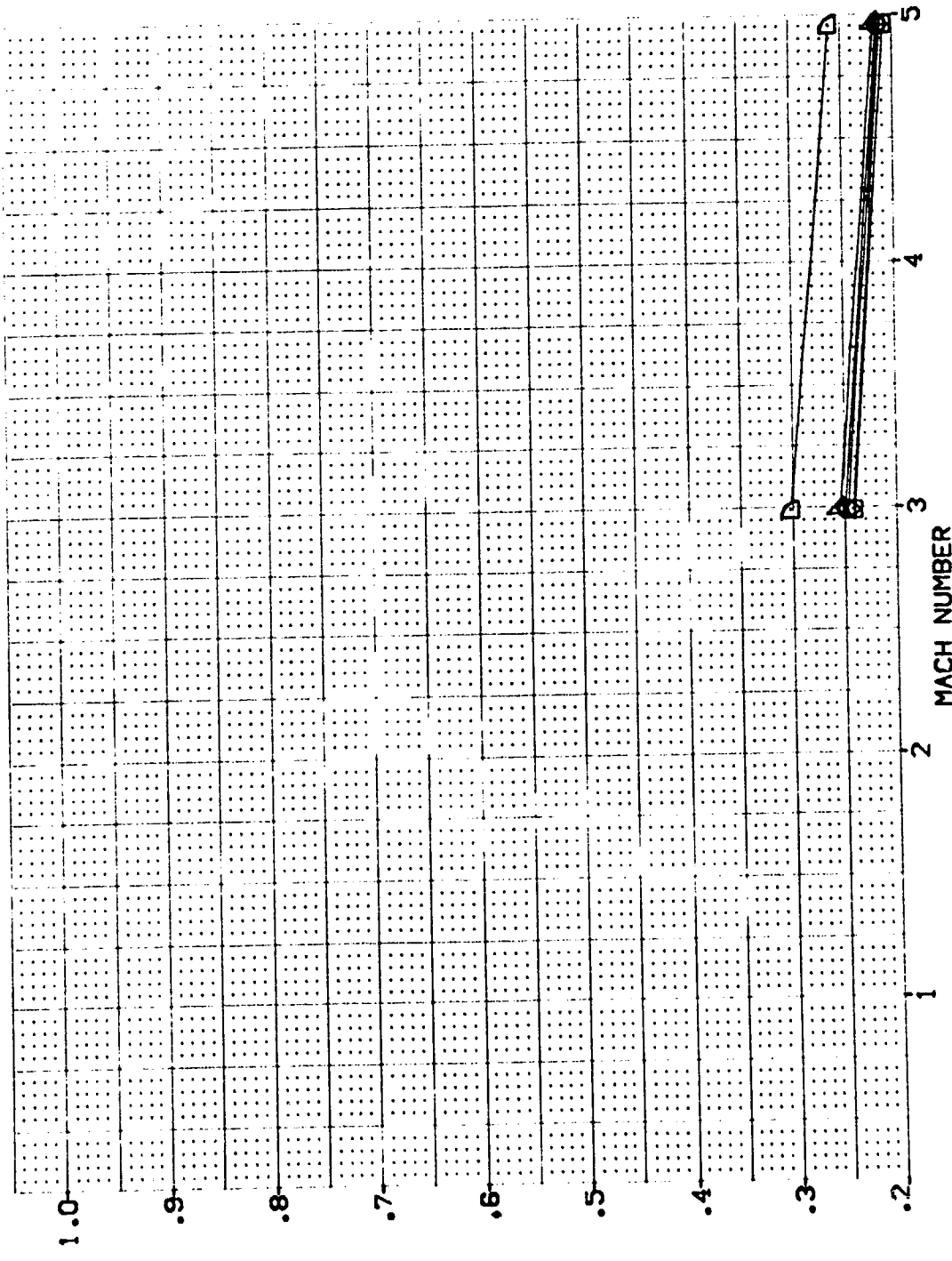
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)ALPHA = 20.00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDRBK	AILRON	REFERENCE INFORMATION
[792A01]	MSFC 581(0A49) CR8 34-0 (BCFM) (VE)(VR)	-23.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
[79A117]	MSFC 581(0A49) CR8 34-0 (BCFM) (VE)(VR)	-23.840	-11.700	25.550	-1.240	LREF 481.6480 IN.
[792A02]	MSFC 581(0A49) CR8 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-1.400	BREF 936.7000 IN.
[792A03]	MSFC 581(0A49) CR8 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-1.630	YREF 1081.3000 IN.
[792A04]	MSFC 581(0A49) CR8 34-0 (BCFM) (VE)(VR)	.000	-11.700	25.550	-1.680	ZREF .0000 IN.
[792A05]	MSFC 581(0A49) CR8 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZREF .0040 IN.

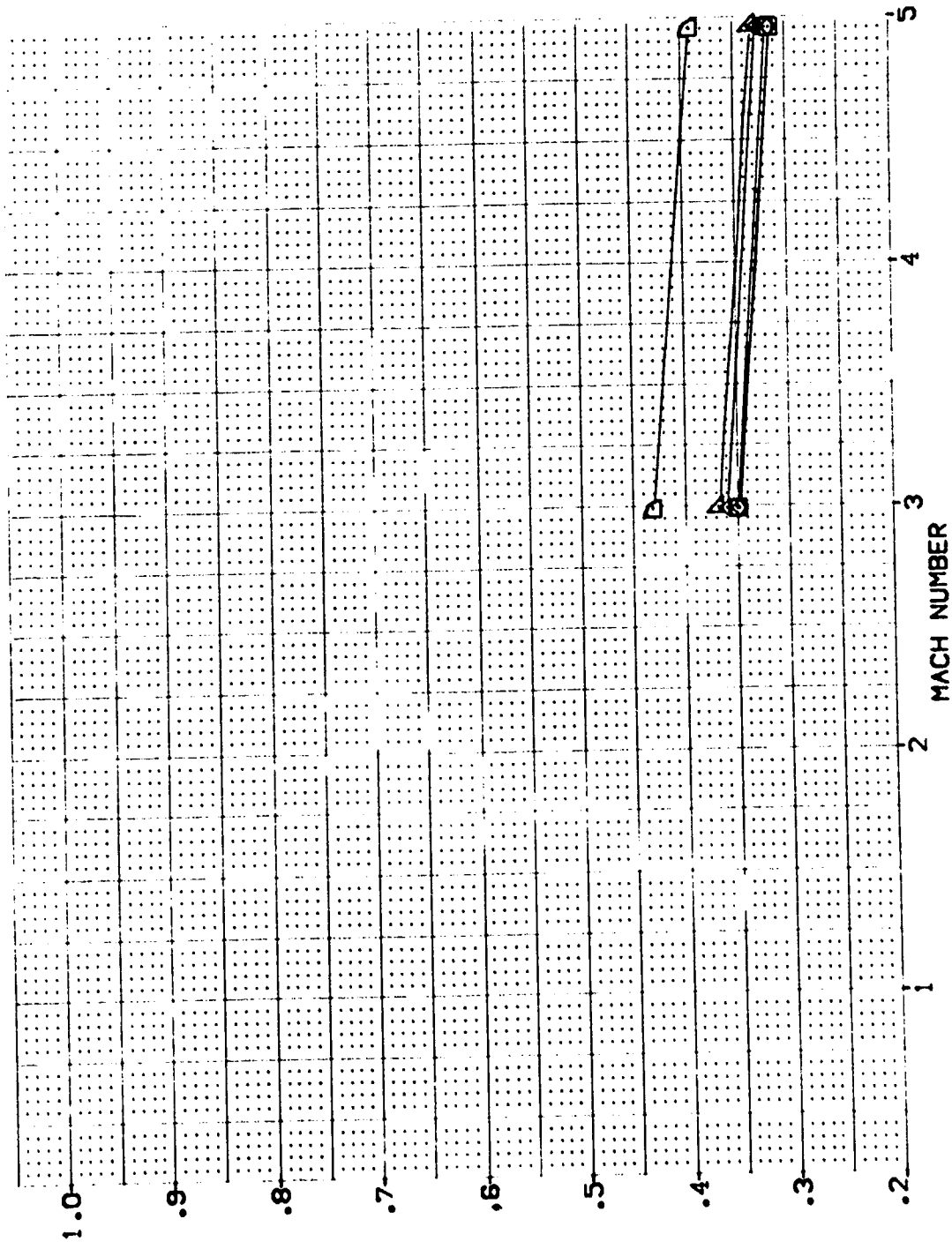
FORERBODY DRAG COEFFICIENT, CDF



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(α) ALPHA = 20.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION	SQ. FT
{732A01}	MSC 581(OA49) 088 34-0 (BOFH) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000	IN.
{732A02}	MSC 581(OA49) 088 34-0 (BOFH) (VE)(VR)	-23.840	-11.700	25.550	-0.240	LREF 481.6480	IN.
{732A03}	MSC 581(OA49) 088 34-0 (BOFH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000	IN.
{732A04}	MSC 581(OA49) 088 34-0 (BOFH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP 1081.3900	IN.
{732A05}	MSC 581(OA49) 088 34-0 (BOFH) (VE)(VR)	16.750	-11.700	25.550	-1.680	ZMRP 0.0000	IN.
						SCALE	0.0010



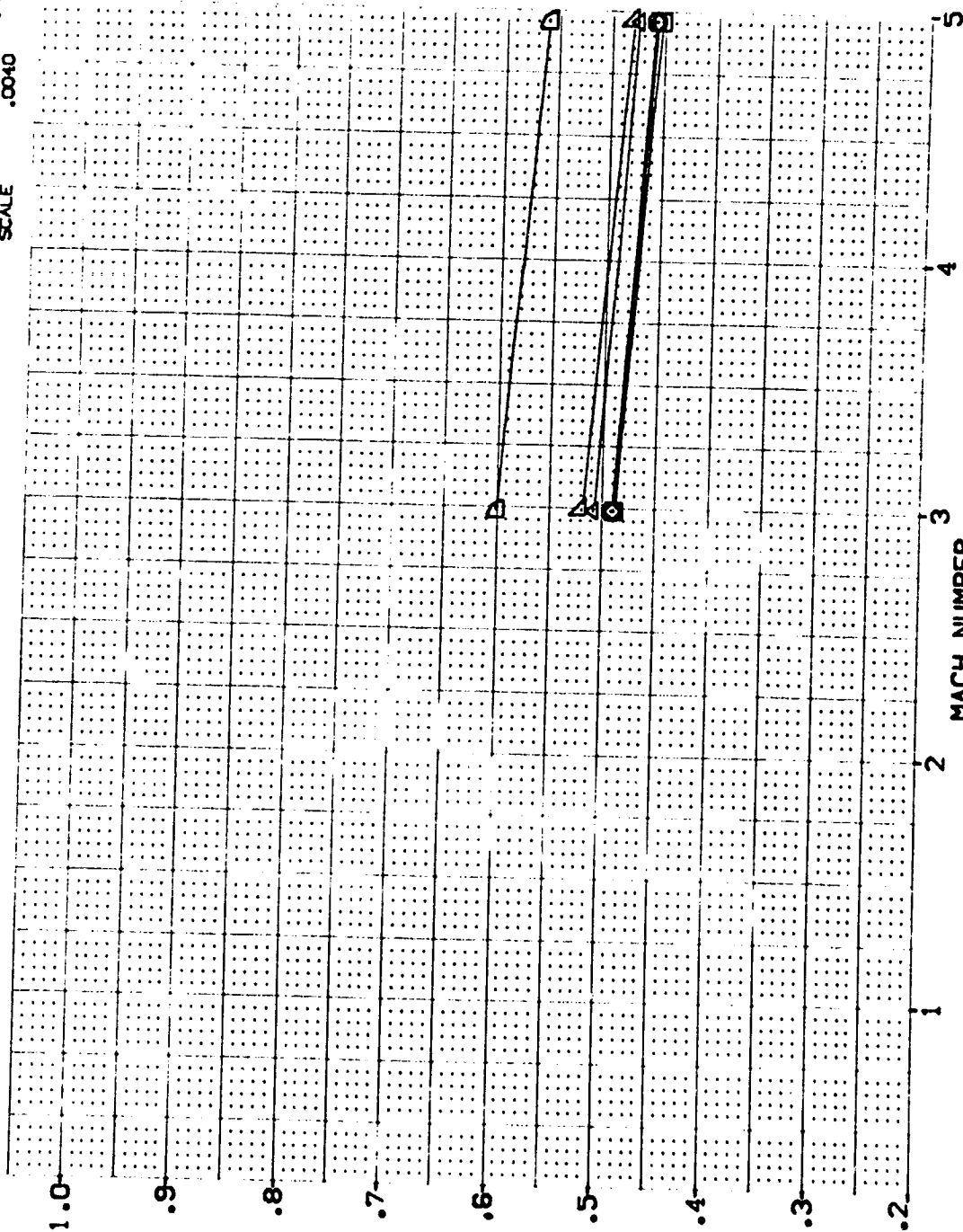
INTERPOLATED ZERO ELEVON CHARACTERISTICS

(B)ALPHA = 25.00

FOREBODY DRAG COEFFICIENT, C_D

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 792A01 581(0A49) 088 3A-0 (BOFM) (VE)(VR)
 792A02 581(0A49) 088 3A-0 (BOFM) (VE)(VR)
 792A03 581(0A49) 088 3A-0 (BOFM) (VE)(VR)
 792A04 581(0A49) 088 3A-0 (BOFM) (VE)(VR)
 792A05 581(0A49) 088 3A-0 (BOFM) (VE)(VR)

ELEVTR BOFLAP SPDBRK AILRON REFERENCE INFORMATION
 -33.650 -11.700 25.550 -320 SREF 2741.8000 SQ. FT
 -23.840 -11.700 25.550 -340 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -400 BREF 936.7000 IN.
 -4.310 -11.700 25.550 -630 XMRP 1081.3900 IN.
 16.790 -11.700 25.550 -0000 YMRP 0000 IN.
 -1.680 -11.700 25.550 -0040 ZMRP 0000 IN.
 SCALE

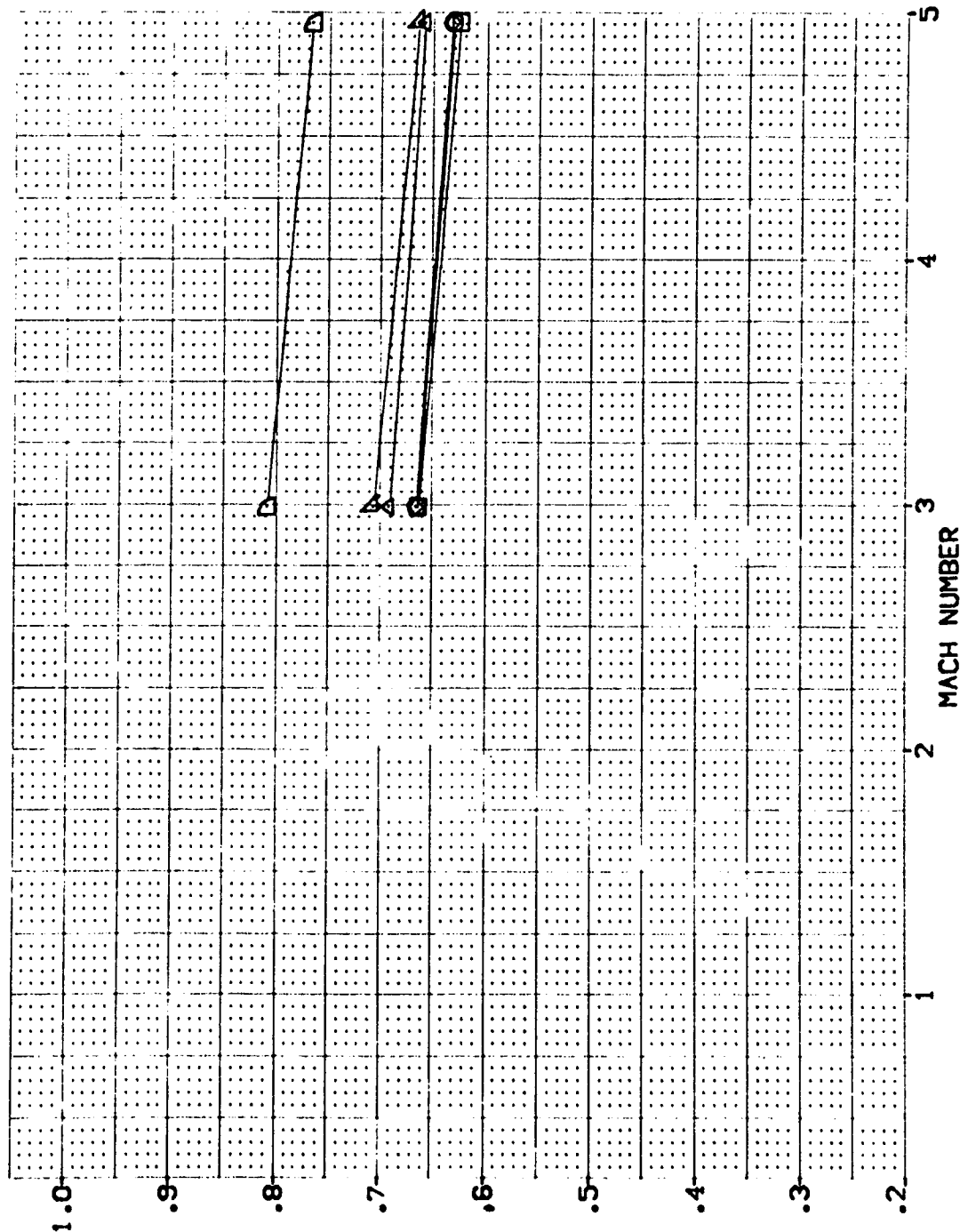


INTERPOLATED ZERO ELEVON CHARACTERISTICS

(C) ALPHA = 30.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPOBRK	AILRON	REFERENCE INFORMATION	SO. FT
[792A01]	MSFC 501 (0A49) DBB 34-0 (BDTH) (VE)(VR)	-39.650	-11.700	25.550	-1.320	SREF 2741.8000	IN.
[792A02]	MSFC 501 (0A49) DBB 34-0 (BDTH) (VE)(VR)	-23.840	-11.700	25.550	-1.240	LREF 481.6480	IN.
[792A03]	MSFC 501 (0A49) DBB 34-0 (BDTH) (VE)(VR)	-15.550	-11.700	25.550	-1.400	BREF 936.7000	IN.
[792A04]	MSFC 501 (0A49) DBB 34-0 (BDTH) (VE)(VR)	-4.310	-11.700	25.550	-1.630	XMRP 1081.3900	IN.
[792A05]	MSFC 501 (0A49) DBB 34-0 (BDTH) (VE)(VR)	.000	-11.700	25.550	-1.680	YMRP .0000	IN.
		16.750	-11.700	25.550	-1.680	ZMRP .0000	IN.
						SCALE	.0040



FOREBODY DRAG COEFFICIENT, CDF

INTERPOLATED ZERO ELEVON CHARACTERISTICS

[CD]ALPHA = 35.00

DATA SET SYMBOL

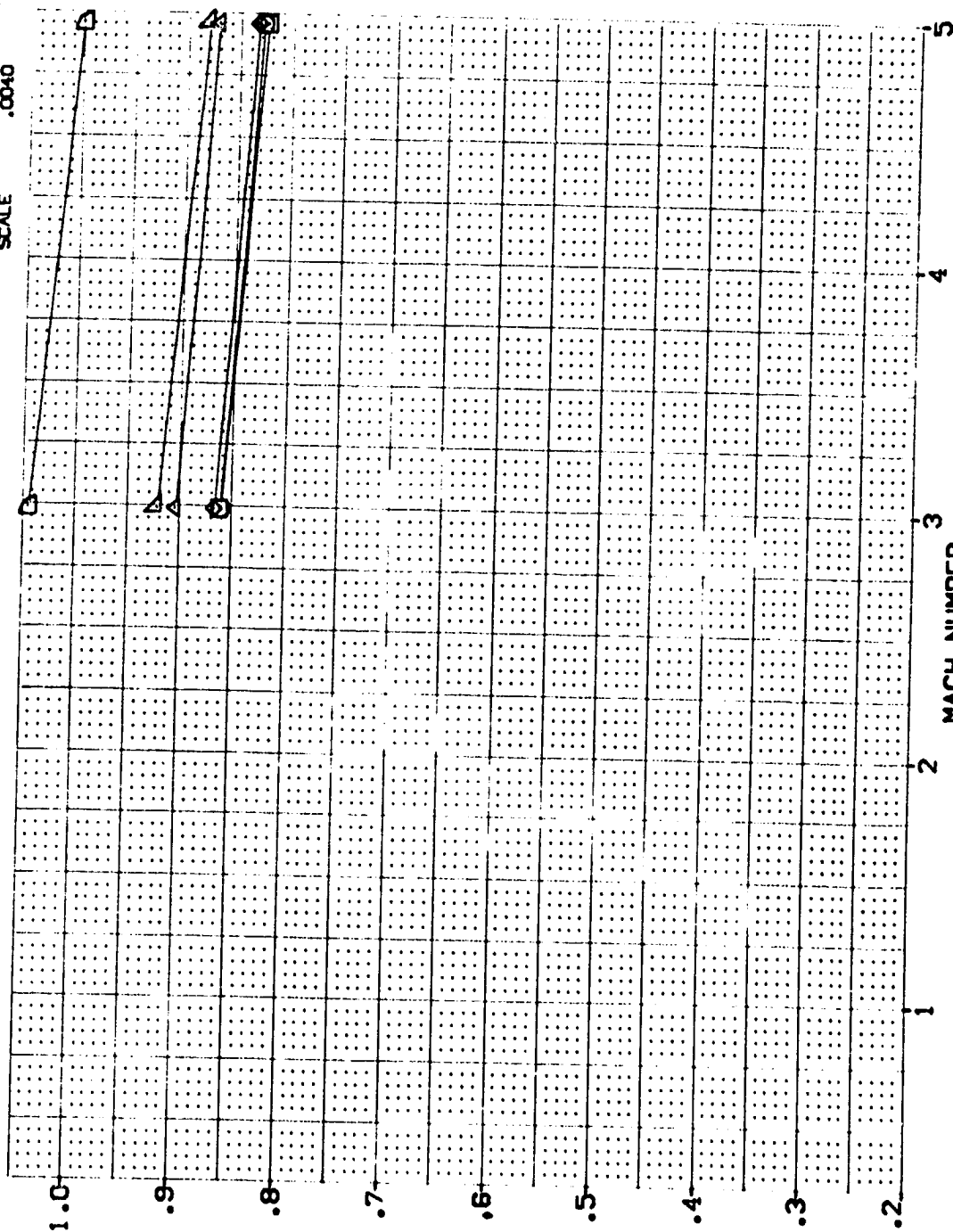
CONFIGURATION DESCRIPTION

MSFC 581 (0A49) DB 34-0 (BCFM) (VE)(VR)
 MSFC 581 (0A49) DB 34-0 (BCFM) (VE)(VR)
 MSFC 581 (0A49) DB 34-0 (BCFM) (VE)(VR)
 MSFC 581 (0A49) DB 34-0 (BCFM) (VE)(VR)
 MSFC 581 (0A49) DB 34-0 (BCFM) (VE)(VR)

ELEVTR BDFLAP SPOBRK AILRON
 -23.650 -11.700 25.950 -1.320
 -23.640 -11.700 25.950 -1.240
 -15.550 -11.700 25.950 -1.400
 -4.310 -11.700 25.950 -1.630
 16.750 -11.700 25.950 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 636.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

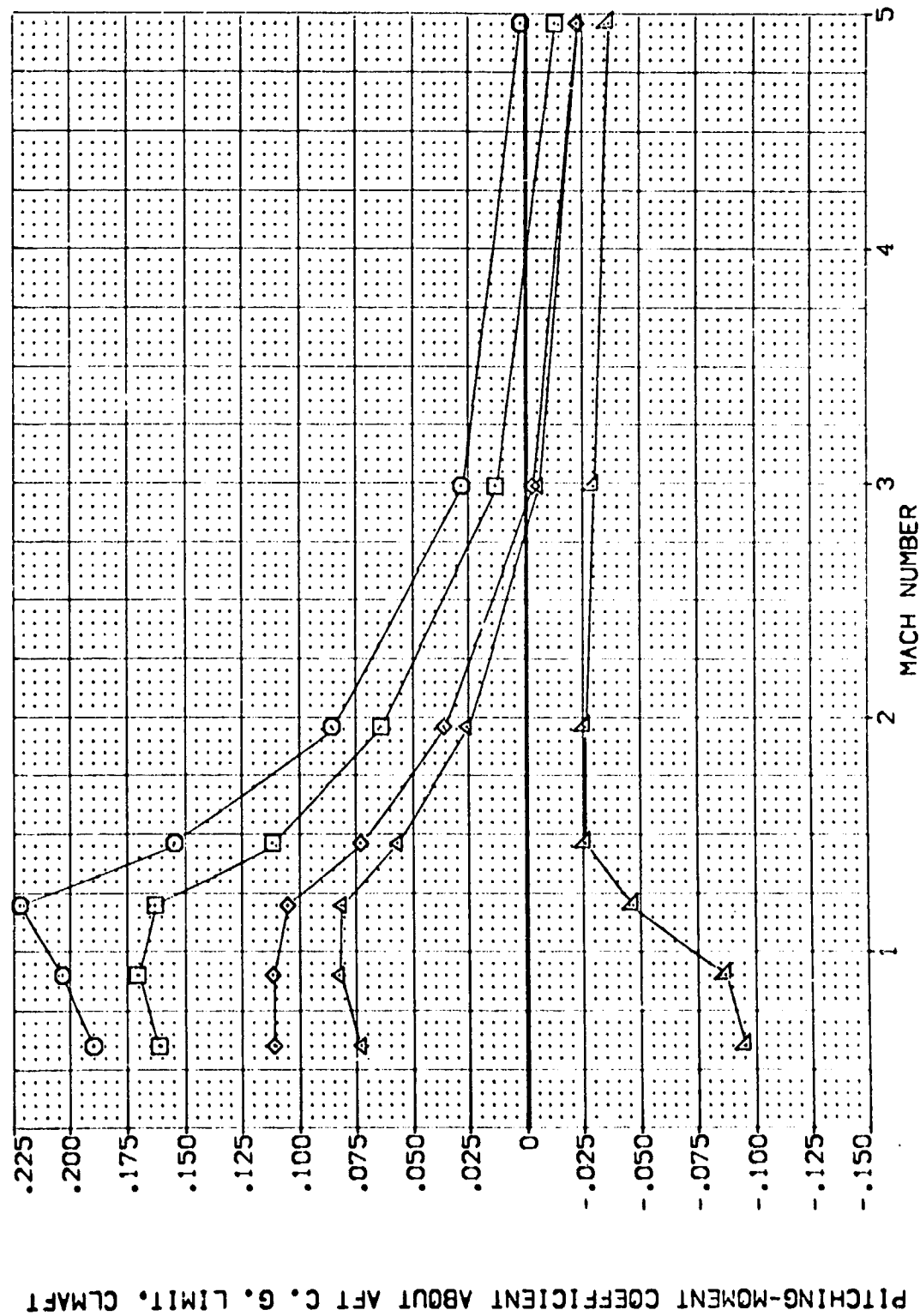
FOREBODY DRAG COEFFICIENT, CDF



INTERPOLATED ZERO ELEVON CHARACTERISTICS

(E)ALPHA = 40.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILTRON	REFERENCE INFORMATION
(697001)	MSFC 581(DA19) CR3 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(697002)	MSFC 581(DA19) CR3 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-0.400	LREF 481.6480 IN.
(697003)	MSFC 581(DA19) CR3 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-0.630	BREF 936.7000 IN.
(697004)	MSFC 581(DA19) CR3 34-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	YMRP 1107.1950 IN.
(697005)	MSFC 581(DA19) CR3 34-0 (BCFM) (VE)(VR)					ZMRP .0000 IN.
						SCALE .0040



INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

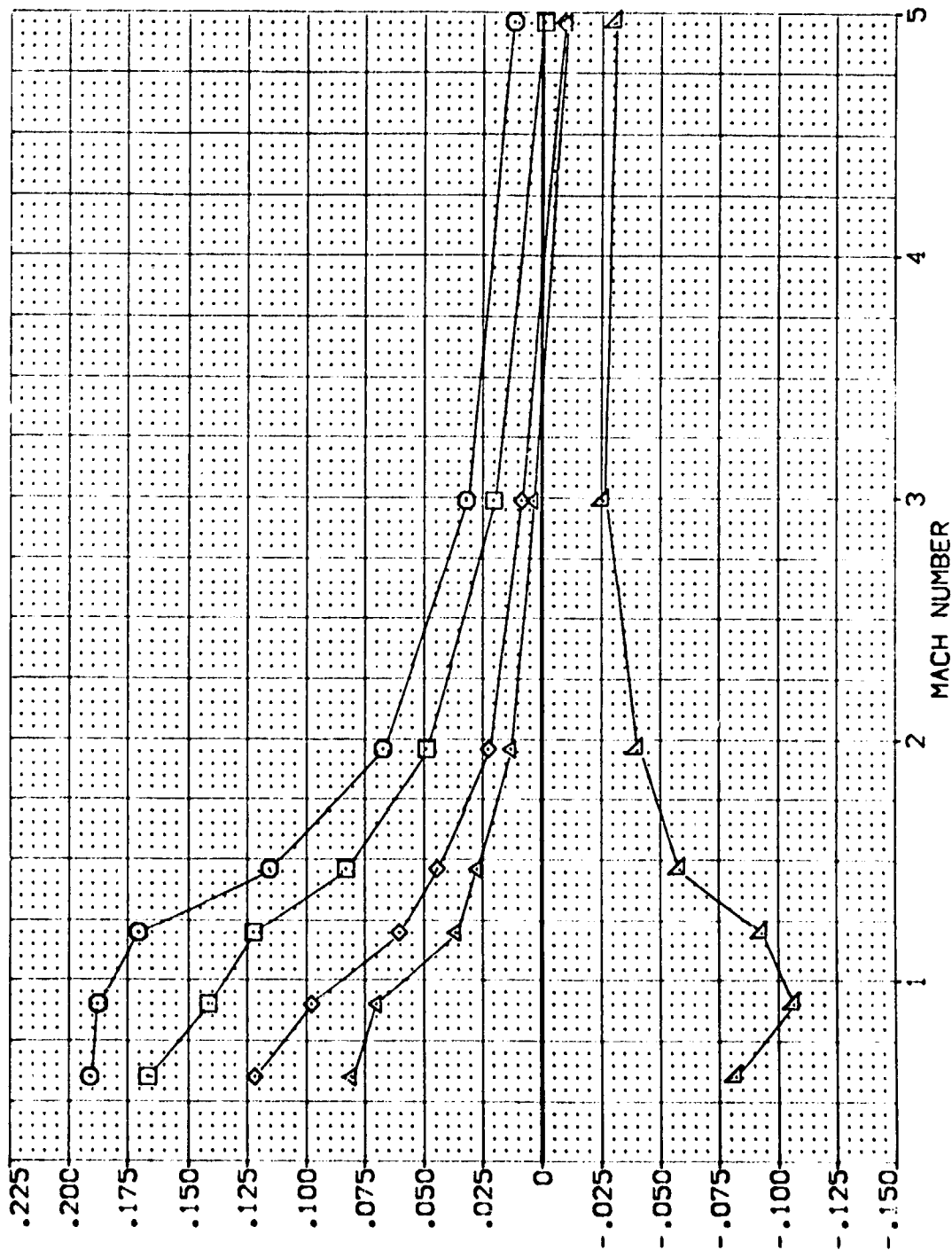
CALCULATED = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILTRON	REFERENCE INFORMATION
[692001]	MSFC 581(CA49) DBR 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
[692002]	MSFC 581(CA49) DBR 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-1.400	LREF 481.6480 IN.
[692003]	MSFC 581(CA49) DBR 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-1.530	BREF 936.7000 IN.
[692004]	MSFC 581(CA49) DBR 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	YMRP 1107.0000 IN.
[692005]	MSFC 581(CA49) DBR 34-0 (BCFM) (VE)(VR)					ZMRP .0000 IN.

SCALE .0010

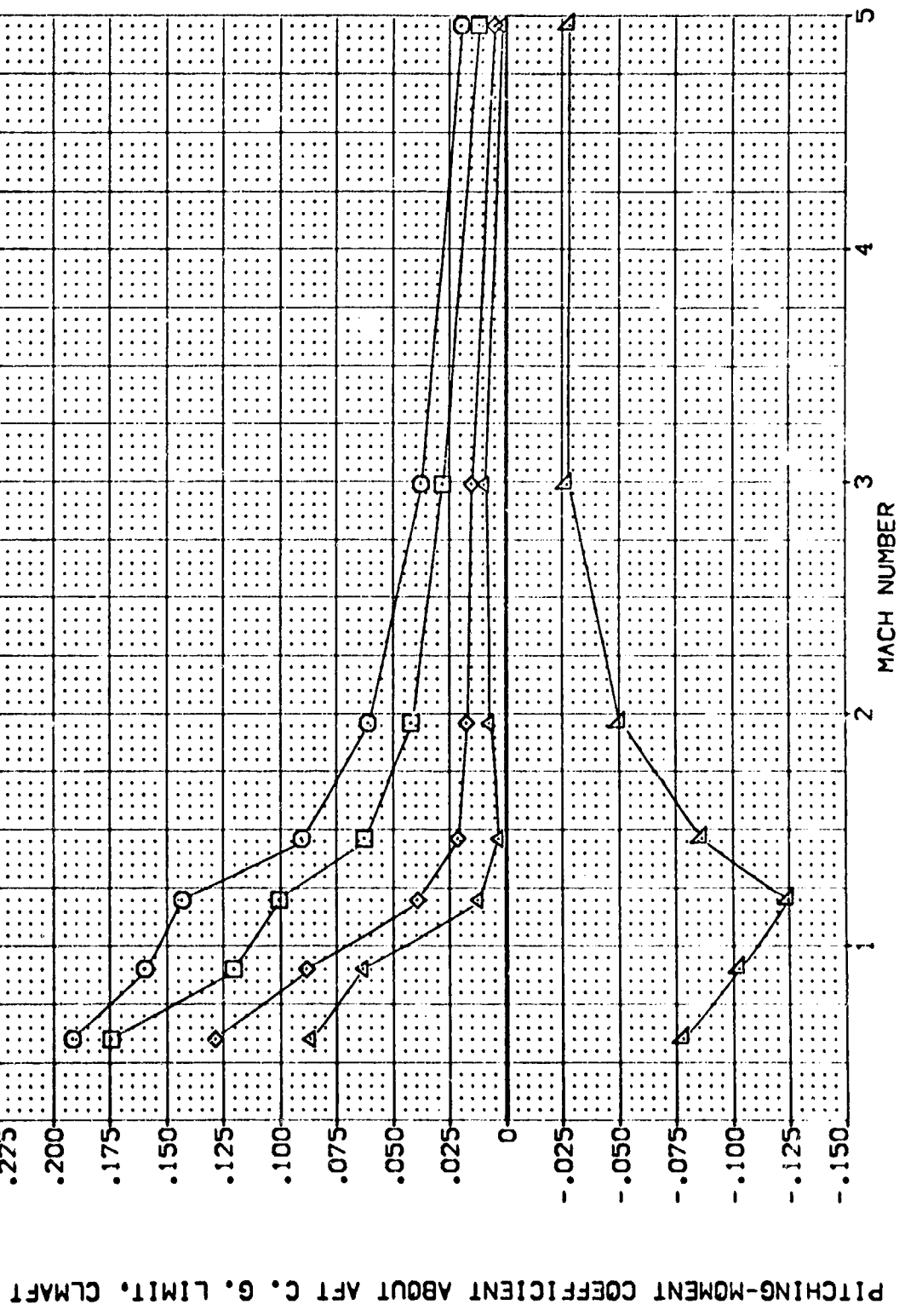
PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFT



INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(B)ALPHA = 5.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDBRK	AILETRON	REFERENCE INFORMATION
[692001]	MSFC 581 (DA49) DRB 34-0 (BCFM) (VE) (VR)	-39.650	-11.700	25.550	-3.320	SREF 2741.8000 SQ. FT
[692002]	MSFC 581 (DA49) DRB 34-0 (BCFM) (VE) (VR)	-15.550	-11.700	25.550	-4.400	LREF 481.6480 IN.
[692003]	MSFC 581 (DA49) DRB 34-0 (BCFM) (VE) (VR)	-4.310	-11.700	25.550	-6.630	BREF 956.7000 IN.
[692004]	MSFC 581 (DA49) DRB 34-0 (BCFM) (VE) (VR)	.000	-11.700	25.550	-1.680	XMRP 1107.1950 IN.
[692005]	MSFC 581 (DA49) DRB 34-0 (BCFM) (VE) (VR)	16.790	-11.700	25.550		YMRP .0000 IN.
						SCALE .0010



INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(CJALPHA = 10.00

DATA SET SYMBOL

(692001)
(692002)
(692003)
(692004)
(692005)

CONFIGURATION DESCRIPTION

MSFC S81(CA49) DB 34-0 (BCFM) (VE)(VR)
MSFC S81(CA49) DB 34-0 (BCFM) (VE)(VR)
MSFC S81(CA49) DB 34-0 (BCFM) (VE)(VR)
MSFC S81(CA49) DB 34-0 (BCFM) (VE)(VR)
MSFC S81(CA49) DB 34-0 (BCFM) (VE)(VR)

ELEVTR BOFLAP SPOBRK

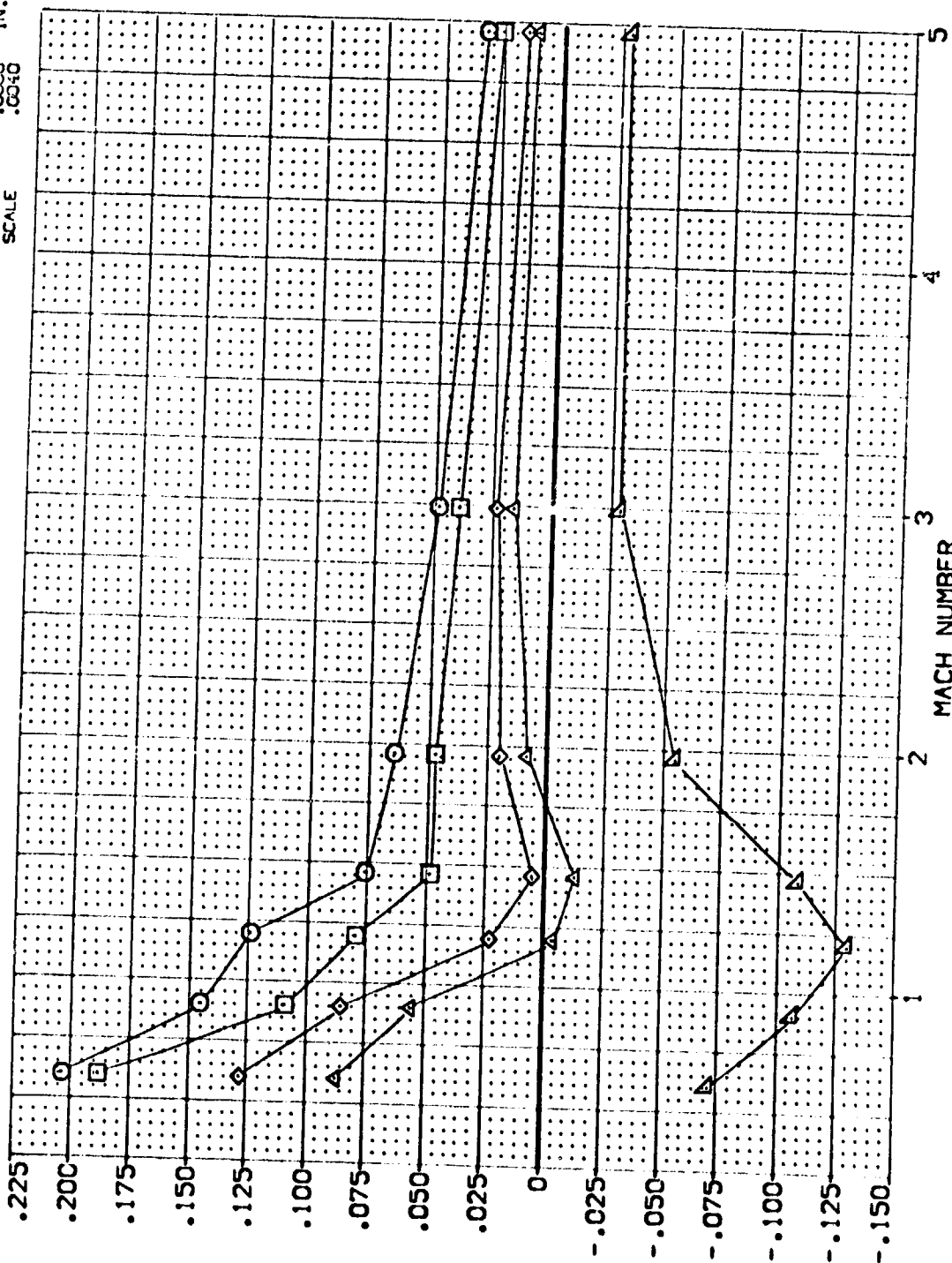
-33.650 -11.700 25.550
-15.550 -11.700 25.550
-4.310 -11.700 25.550
16.750 -11.700 25.550

ATLRON

-0.320
-0.400
-0.630
-1.680

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1107.550 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0010

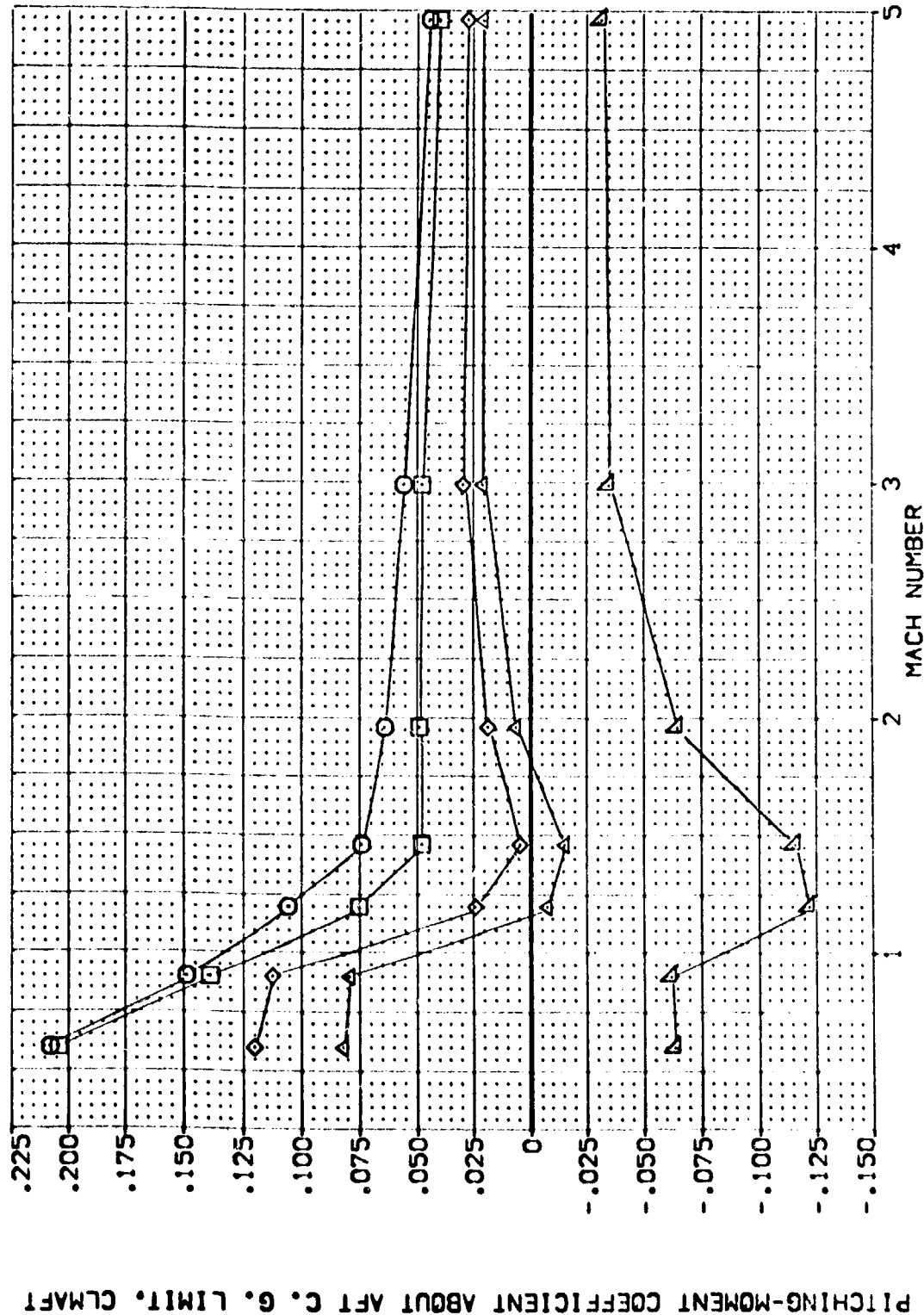


PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFT

INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(D)ALPHA = 15.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	SOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(692001)	MSFC 58 (CA49) C28 34-0 (BCFH) (VE) (VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(692002)	MSFC 58 (CA49) C28 34-0 (BCFH) (VE) (VR)	-15.550	-11.700	25.550	-400	LREF 481.6480 IN.
(692003)	MSFC 58 (CA49) C28 34-0 (BCFH) (VE) (VR)	-4.310	-11.700	25.550	-630	BREF 936.7000 IN.
(692004)	MSFC 58 (CA49) C28 34-0 (BCFH) (VE) (VR)	-1.000	-11.700	25.550	-1.680	XREF 1107.1950 IN.
(692005)	MSFC 58 (CA49) C28 34-0 (BCFH) (VE) (VR)	16.750	-11.700	25.550	-1.680	YREF .0000 IN.
						ZREF .0040 IN.
						SCALE



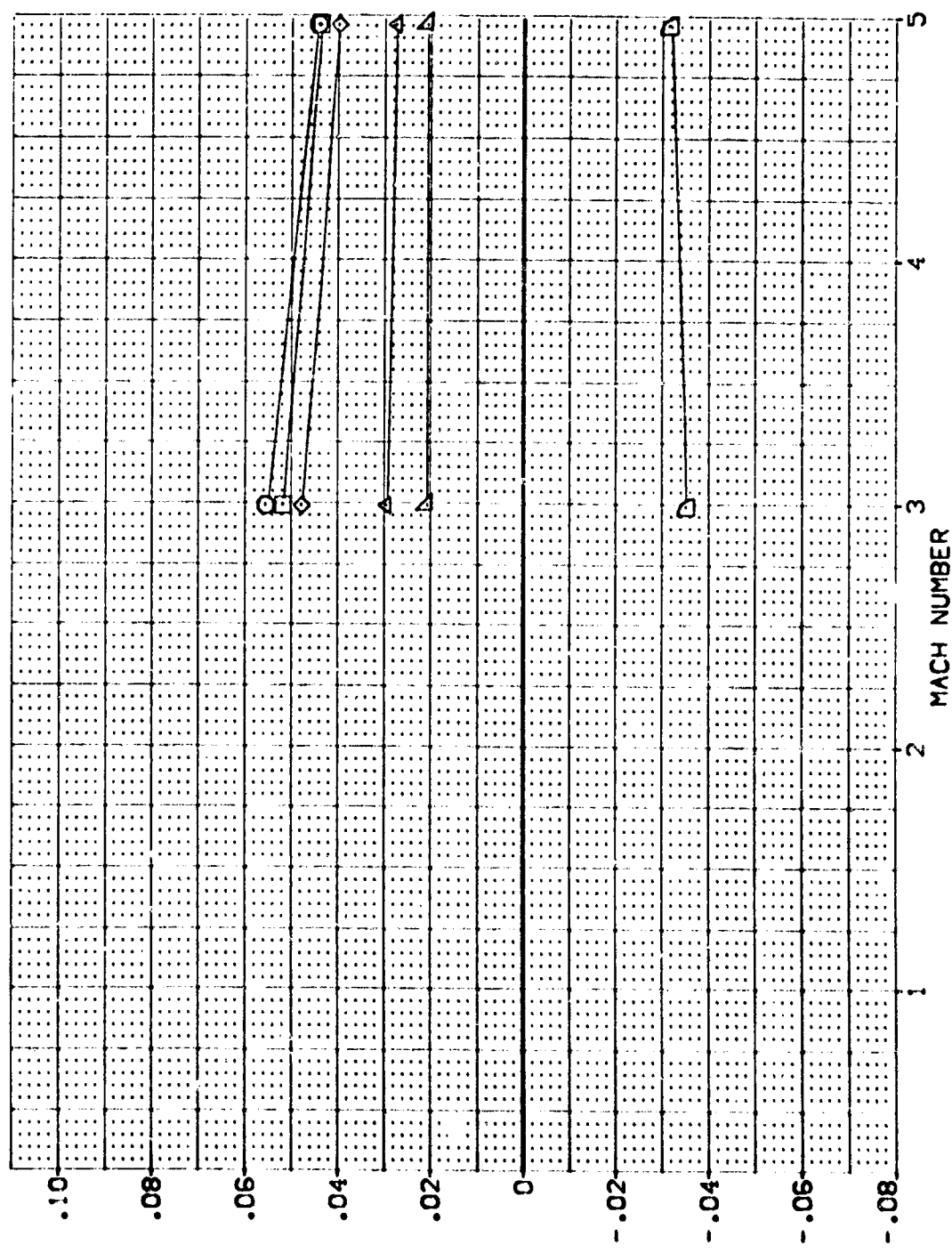
INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(α) = 20.00



PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFT

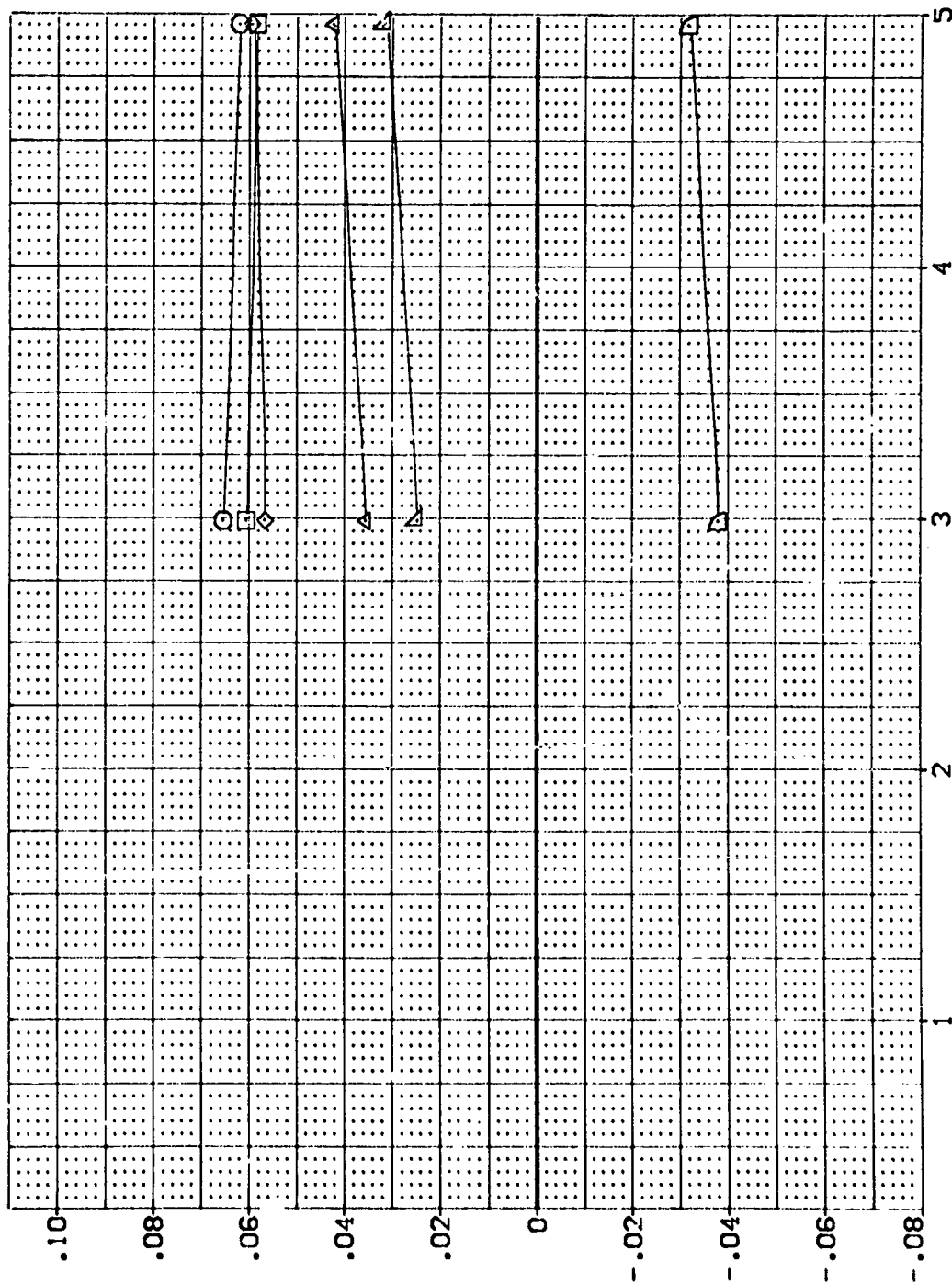
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDBRK	AIRDRN	REFERENCE INFORMATION
(692A01)	MSFC 581(DA19) D78 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
(691A02)	MSFC 581(DA19) D78 34-0 (BCFM) (VE)(VR)	-23.840	-11.700	25.550	-1.240	LREF 481.8480 IN.
(692A03)	MSFC 581(DA19) D78 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-1.400	BREF 936.7000 IN.
(692A04)	MSFC 581(DA19) D78 34-0 (BCFM) (VE)(VR)	-4.300	-11.700	25.550	-1.630	XMRD 1107.1950 IN.
(692A05)	MSFC 581(DA19) D78 34-0 (BCFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	YMRD 6033 IN.
						ZMRD 6033 IN.
						SCALE 6033



INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(A) ALPHA = 20.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPODBRK	AIRLON	REFERENCE INFORMATION	SO: FT
(692A01)	MSFC 581(OA49) CRB 34-0 (BCFM) (VE)(VR)	-23.650	-11.700	25.550	-0.320	SREF	2741.8000
(69A117)	MSFC 581(OA49) CRB 34-0 (BCFM) (VE)(VR)	-23.840	-11.700	25.550	-0.240	LREF	481.6480
(692A02)	MSFC 581(OA49) CRB 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-0.400	SREF	936.7000
(692A03)	MSFC 581(OA49) CRB 34-0 (BCFM) (VE)(VR)	-1.310	-11.700	25.550	-0.630	XMRP	1107.1960
(692A04)	MSFC 581(OA49) CRB 34-0 (BCFM) (VE)(VR)	0.000	-11.700	25.550	-0.000	YMRP	0.0000
(692A05)	MSFC 581(OA49) CRB 34-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	ZMRP	0.0000
						SCALE	.0040



PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFI

INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(B) ALPHA = 25.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (692A01) MSFC 531(CA49) 083 34-0 (BCFH) (VE)(VR)
 (692A17) MSFC 531(CA49) 083 34-0 (BCFH) (VE)(VR)
 (692A02) MSFC 531(CA49) 083 34-0 (BCFH) (VE)(VR)
 (692A03) MSFC 531(CA49) 083 34-0 (BCFH) (VE)(VR)
 (692A04) MSFC 531(CA49) 083 34-0 (BCFH) (VE)(VR)
 (692A05) MSFC 531(CA49) 083 34-0 (BCFH) (VE)(VR)

ELEVTR BOFLAP SPDBRK AILTRN REFERENCE INFORMATION
 -23.650 -11.700 25.550 -370 SREF 2741.8000 SQ. FT
 -23.840 -11.700 25.550 -240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -400 BREF 936.7000 IN.
 -4.310 -11.700 25.550 -630 YMRP 1107.1960 IN.
 .000 -11.700 25.550 -000 ZMRP 0000 IN.
 16.790 -11.700 25.550 -1.680 SCALE 0040



PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFT

INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(CJALPHA = 30.00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(632A01)	H5FC 581(0A49) C83 34-0 (BCPH) (VE)(VR)	-33.630	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(632A02)	H5FC 581(0A49) C83 34-0 (BCPH) (VE)(VR)	-23.840	-11.700	25.550	-0.240	LREF 481.6480 IN.
(632A03)	H5FC 581(0A49) C83 34-0 (BCPH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
(632A04)	H5FC 581(0A49) C83 34-0 (BCPH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	XMRP 1107.1960 IN.
(632A05)	H5FC 581(0A49) C83 34-0 (BCPH) (VE)(VR)	-0.000	-11.700	25.550	-1.680	YMRP 0.0000 IN.
		16.750				ZMRP 0.0000 IN.
						SCALE 0.0040

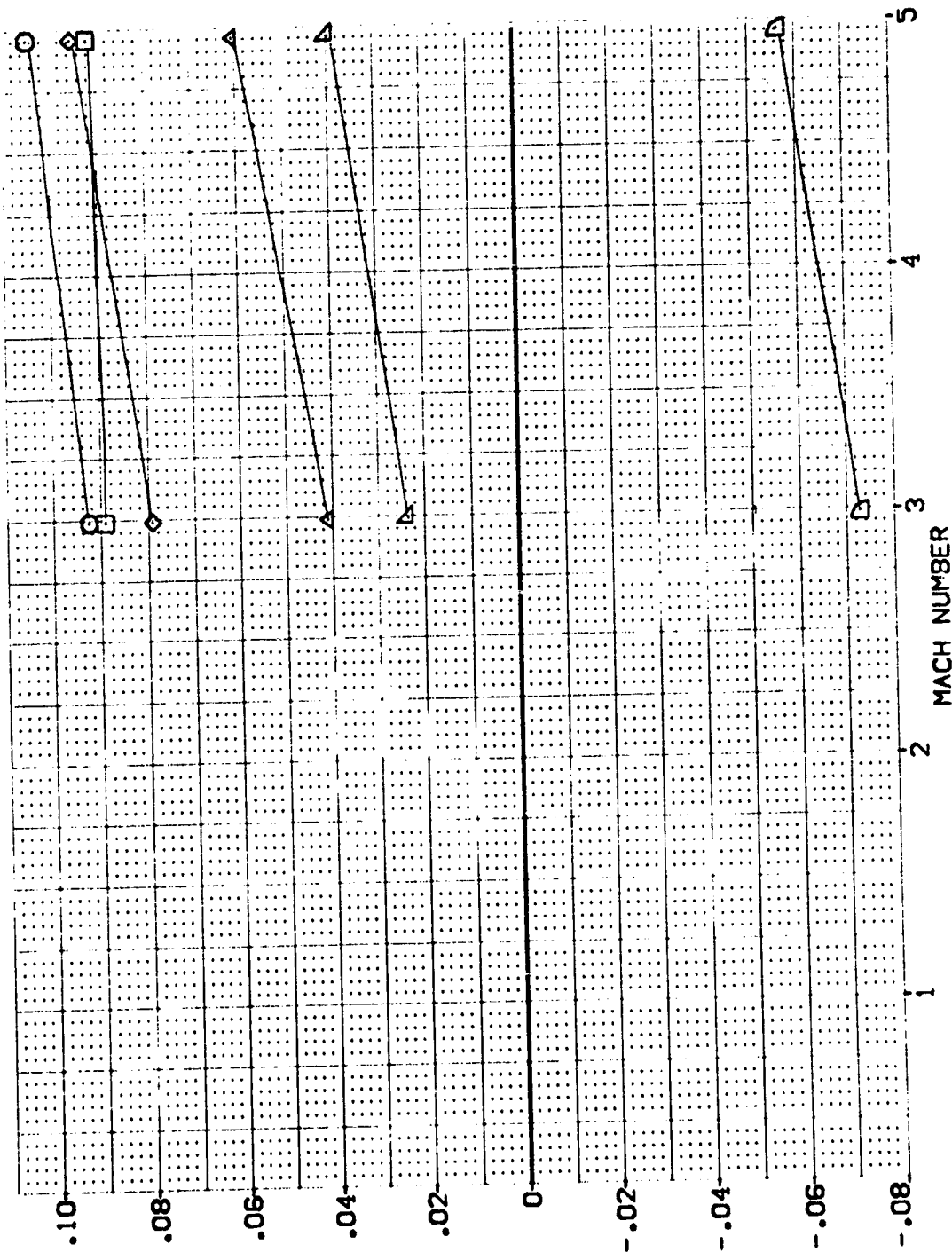


INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

COJALPHA = 35.00

PITCHING-MOMENT COEFFICIENT ABOUT AFT C. G. LIMIT, CLMAFT

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	AIRLRN	REFERENCE INFORMATION
(692A01)	HSFC 581(OA49) CR3 34-0 (BOFH) (VE)(VR)	-33.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
(692A02)	HSFC 581(OA49) CR3 34-0 (BOFH) (VE)(VR)	-23.840	-11.700	25.550	-1.240	LREF 481.6480 IN.
(692A03)	HSFC 581(OA49) CR3 34-0 (BOFH) (VE)(VR)	-15.550	-11.700	25.550	-1.400	BREF 936.7000 IN.
(692A04)	HSFC 581(OA49) CR3 34-0 (BOFH) (VE)(VR)	-4.310	-11.700	25.550	-1.630	XMRP 1107.1960 IN.
(692A05)	HSFC 581(OA49) CR3 34-0 (BOFH) (VE)(VR)	16.750	-11.700	25.550	-1.680	YMRP .0000 IN.
						ZMRP .0040 IN.
						SCALE

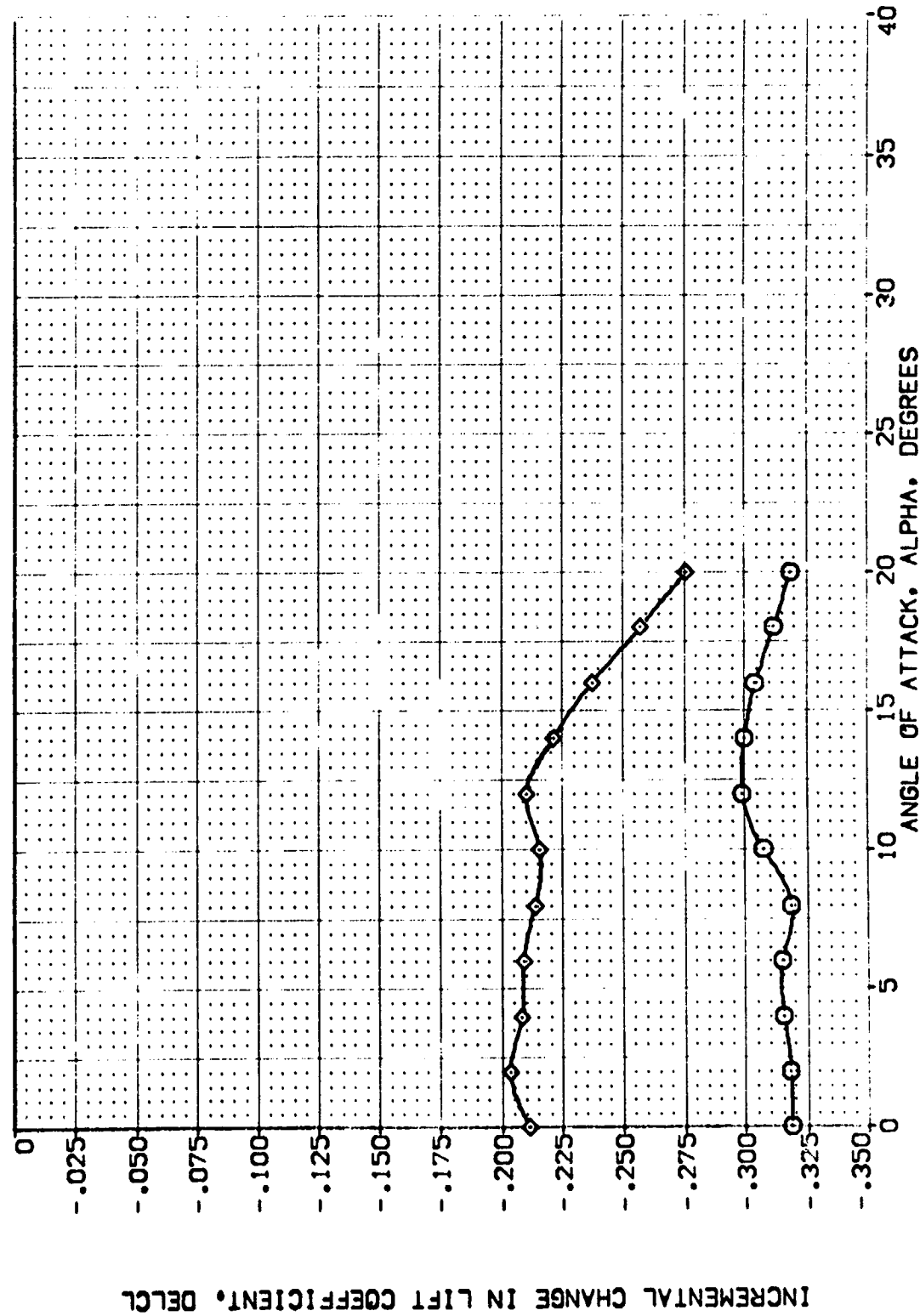


INTERPOLATED ZERO ELEVON CHARACTERISTICS (AFT C.G. LOCATION)

(E) ALPHA = 40.00






DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(142001)	MFC 591 (0A19) DRB 34-0 (BDTH) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(142002)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-240	LREF 481.6480 IN.
(142003)	MFC 591 (0A19) DRB 34-0 (BDTH) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
						XMRP 1081.3900 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040



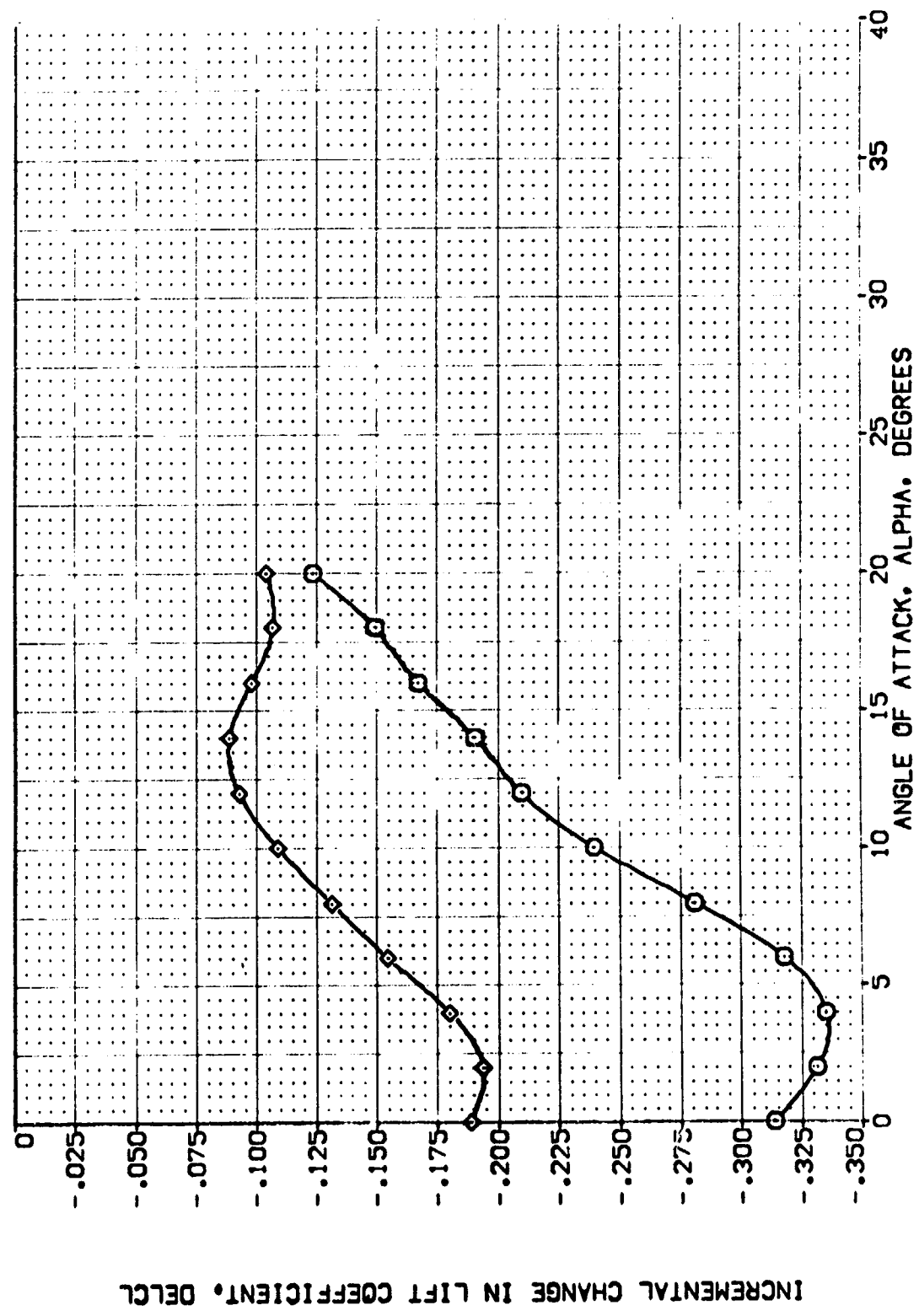
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (H92001)  MSFC 581(QA49) ORB 34-0 (BOFM) (VE)(VR)
 (H92117)  DATA NOT AVAILABLE
 (H92002)  MSFC 581(QA49) ORB 34-0 (BOFM) (VE)(VR)

DELEVR BOFLAP SPOBRK ALLRON REFERENCE INFORMATION
 -33.650 -11.700 25.550 -1.320 SREF 2741.8000 SQ. FT
 -23.840 -11.700 25.550 -1.240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -1.400 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

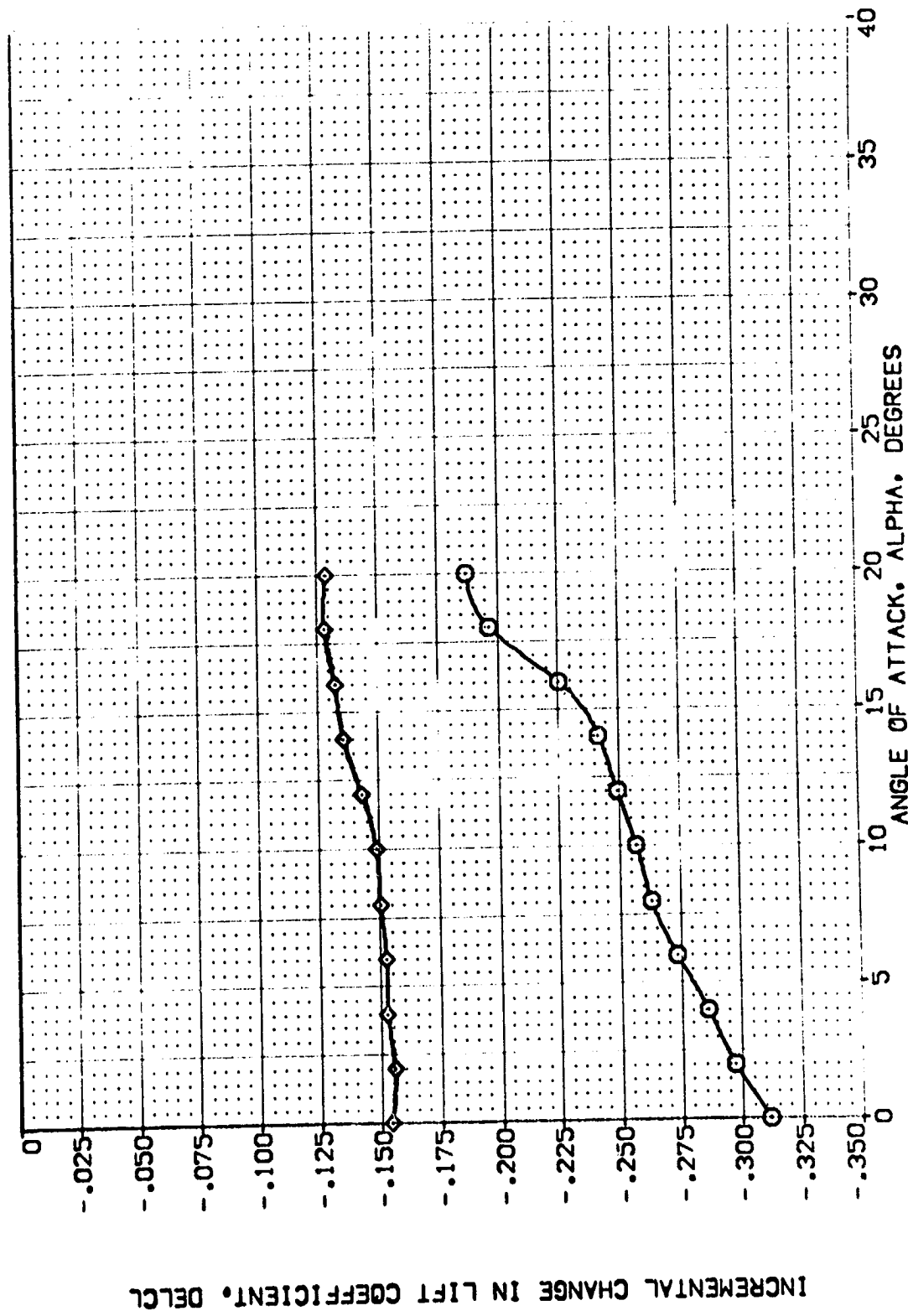
(B)MACH = .89



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (H2001) MSFC 581(0A49) ORB 34-0 (BCFM) (VE)(VR)
 (H2117) DATA NOT AVAILABLE
 (H2202) MSFC 581(0A49) ORB 34-0 (BCFM) (VE)(VR)

DELEVR BDFLAP SPOBRK AILRON
 -23.650 -11.700 25.550
 -23.840 -11.700 25.550
 -15.550 -11.700 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(CJ)MACH = 1.20

DATA SET SYMBOL

{H2001}
{H2002}

CONFIGURATION DESCRIPTION

MSFC S81(0A49) DB 34-0 (BDM) (VE)(VR)
DATA NOT AVAILABLE
MSFC S81(0A49) DB 34-0 (BDM) (VE)(VR)

DELEVR

-33.650
-23.840
-15.550

BDCLAP

-11.700
-11.700
-11.700

SPOBRK

25.550
25.550
25.550

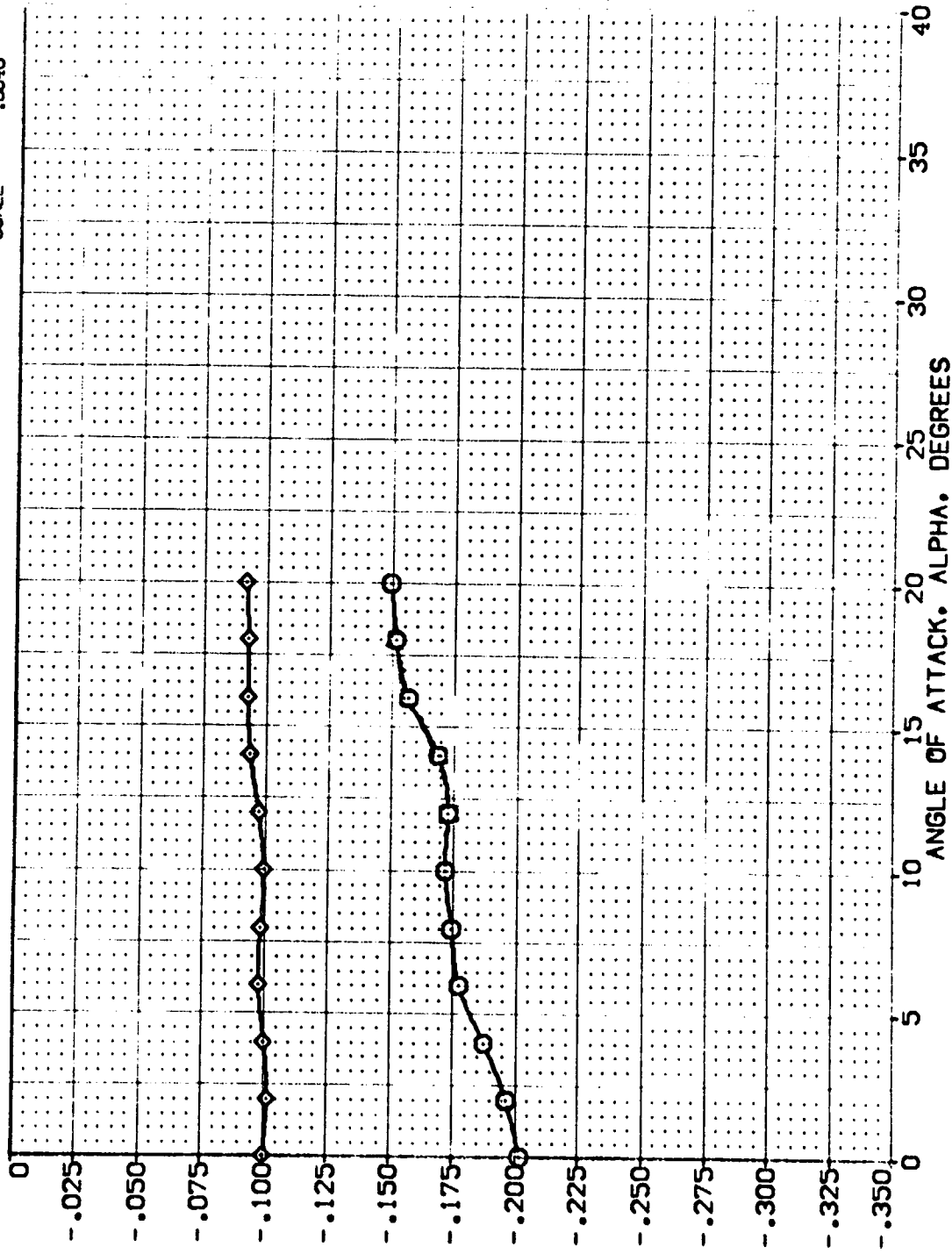
AILRON

-320
-240
-400

REFERENCE INFORMATION

SREF 2741.8000 SO: FT
LREF 481.6480 IN:
BREF 936.7000 IN:
XMRP 1081.3500 IN:
YMRP .0000 IN:
ZMRP .0000 IN:
SCALE .0040

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

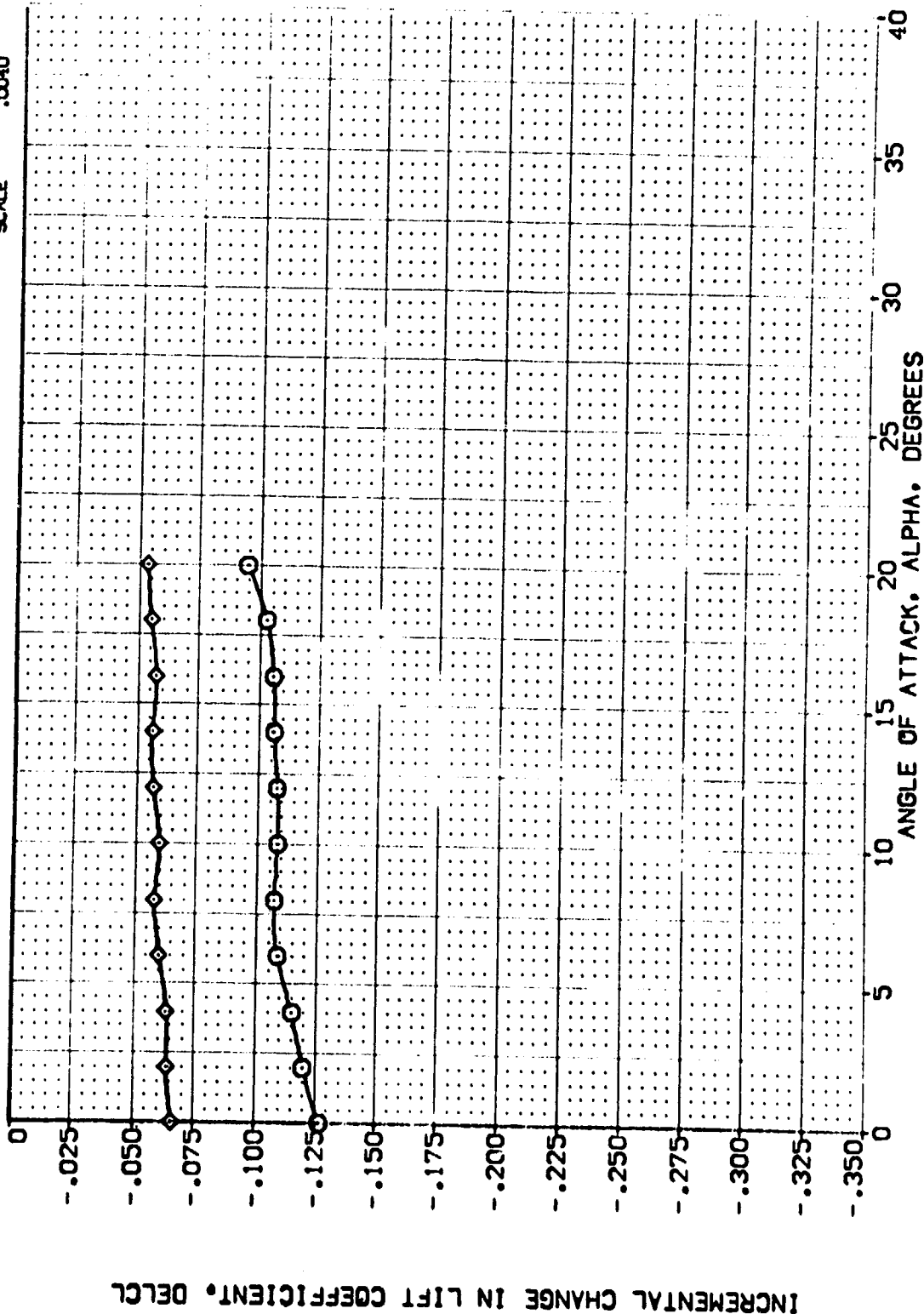


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D)MACH = 1.46

DATA SET SYMBOL: [142001] [142117] [1422002] CONFIGURATION DESCRIPTION: MSFC 591(0A49) ORB 34-0 (BDTH) (VE)(VR) DATA NOT AVAILABLE MSFC 591(0A49) ORB 34-0 (BDTH) (VE)(VR)

REFERENCE INFORMATION	
SREF	2741.8000 SQ. FT
LREF	481.6480 IN.
BREF	936.7000 IN.
XMRP	1081.3900 IN.
YMRP	.0000 IN.
ZMRP	.0000 IN.
SCALE	.0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)MACH = 1.95

DATA SET SYMBOL

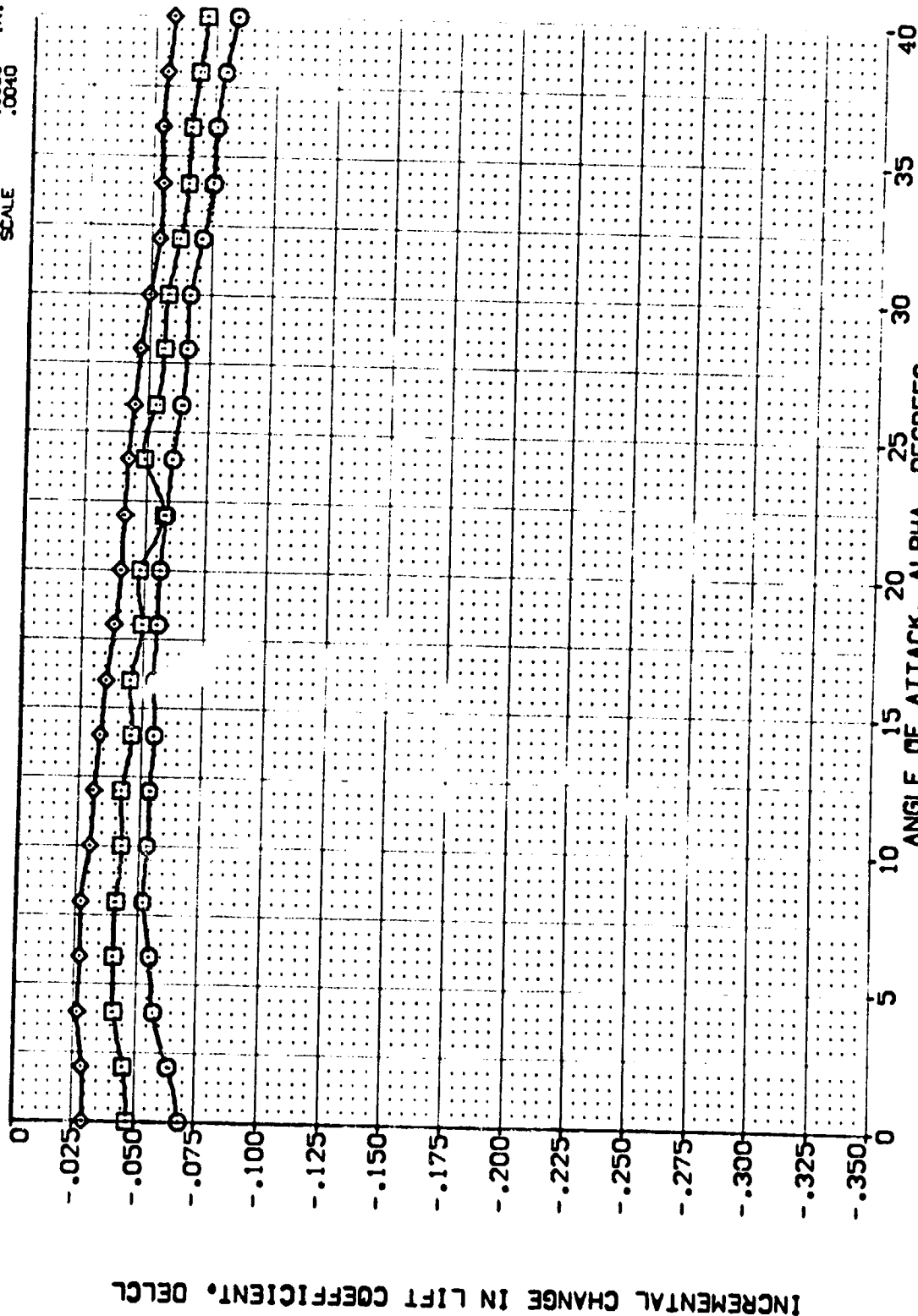
(H2001)
(H2117)
(H2202)

MSFC 501(0A49) 073 3A-0 (BCFH) (VE)(VR)
MSFC 501(0A49) 073 3A-0 (BCFH) (VE)(VR)
MSFC 501(0A49) 073 3A-0 (BCFH) (VE)(VR)

CONFIGURATION DESCRIPTION

DELEVR 80FLAP 800BCK AILRON
-33.650 -11.700 25.550
-23.840 -11.700 23.550
-15.530 -11.700 23.550

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3000 IN.
YMRP 10000 IN.
ZMRP 10000 IN.
SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ANGLE OF ATTACK, ALPHA, DEGREES

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(F)MACH = 2.99

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(H2001) MSC 501(0A19) 078 34-0 (BCFM) (VE)(VR)
 (H2117) MSC 501(0A19) 078 34-0 (BCFM) (VE)(VR)
 (H2002) MSC 501(0A19) 078 34-0 (BCFM) (VE)(VR)

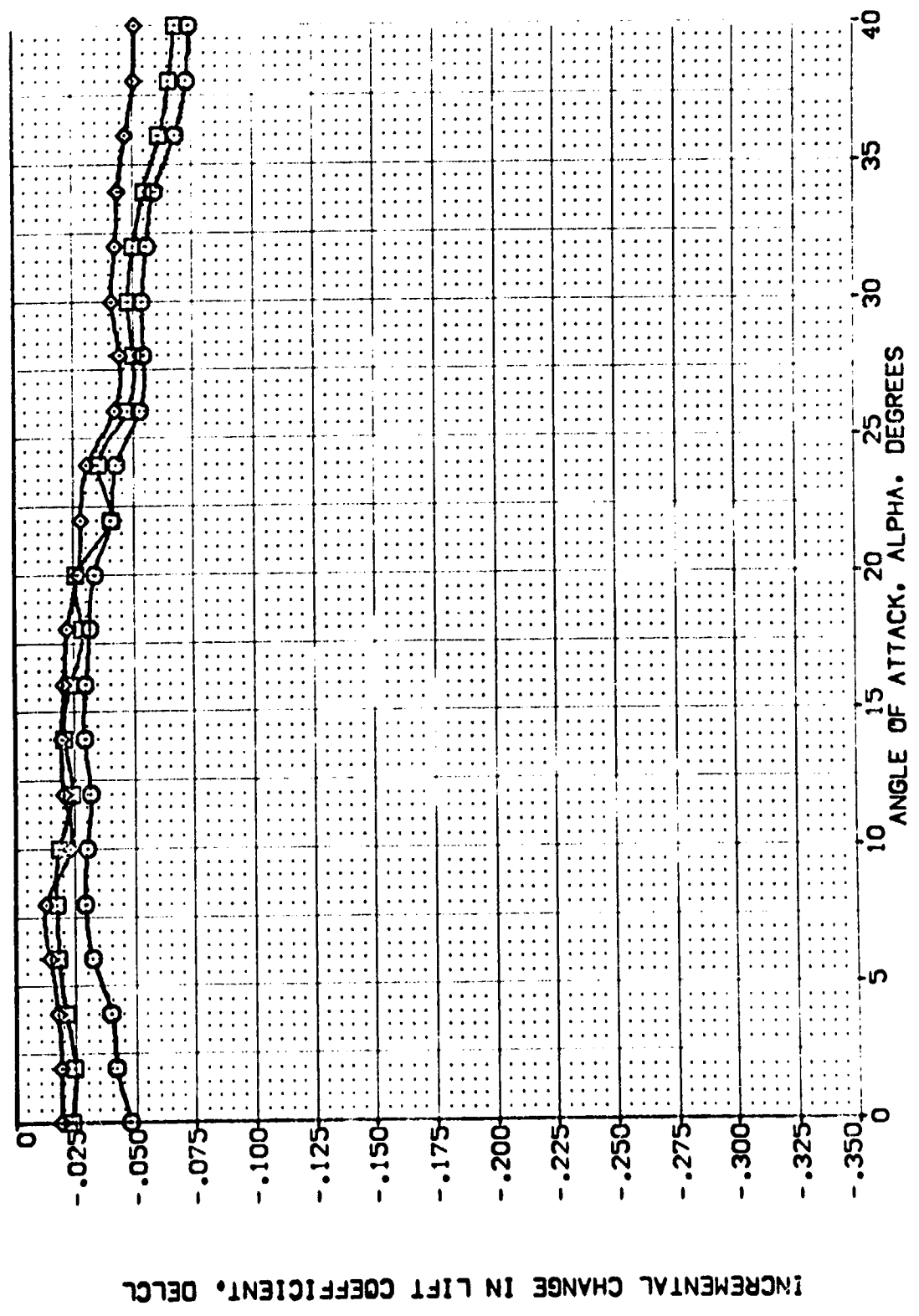
DELEVR -33.650
 -23.840
 -15.550

BOFLAP -11.700
 -11.700
 -11.700

SPDBRK 25.550
 25.550
 25.550

AILRON -.320
 -.240
 -.400

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(G)MACH = 4.96

DATA SET SYMBOL: (1-32001)
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 (1-32100)

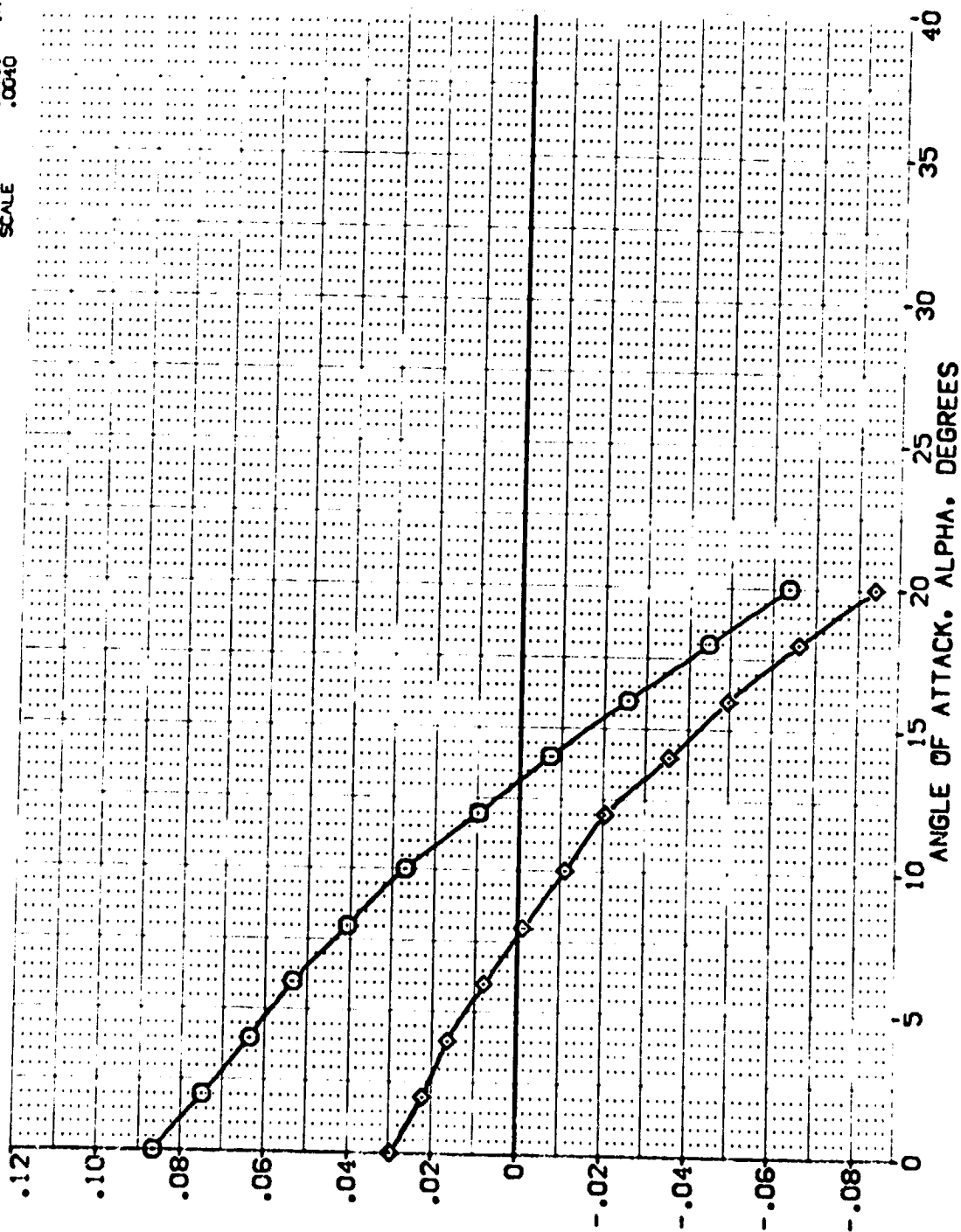
CONFIGURATION DESCRIPTION

MSFC 581 (0419) 0R3 34-0 (BDTH) (VE)(VR)
 DATA NOT AVAILABLE
 MSFC 581 (0419) 0R3 34-0 (BDTH) (VE)(VR)

DELEV: BDFLAP SPOBRK AILRON
 -33.650 -11.700 25.550
 -23.840 -11.700 25.550
 -15.550 -11.700 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

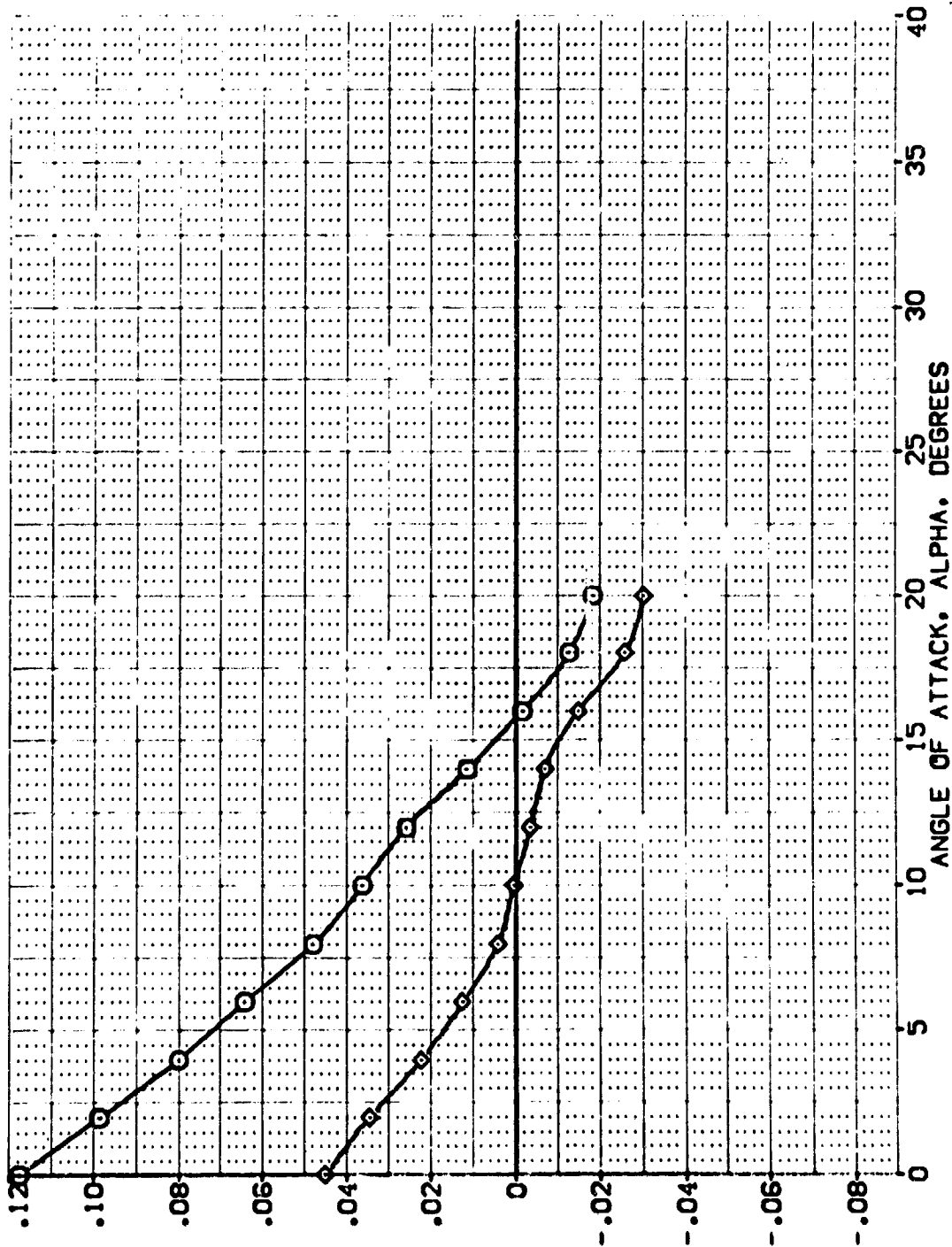
INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCO



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A)MACH = .60

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDFLAP	SPOBRK	ALTRON	REFERENCE INFORMATION
(H20001)	H2C 581(0A45) 0RB 3A-0 (BDM) (VE)(VR)	-23.550	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(H22117)	DATA NOT AVAILABLE	-23.640	-11.700	25.550	-240	LREF 481.6480 IN.
(H22002)	H2C 581(0A45) 0RB 3A-0 (BDM) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 536.7000 IN.
						XREF 1081.3000 IN.
						YREF .0000 IN.
						ZREF .0000 IN.
						SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCO

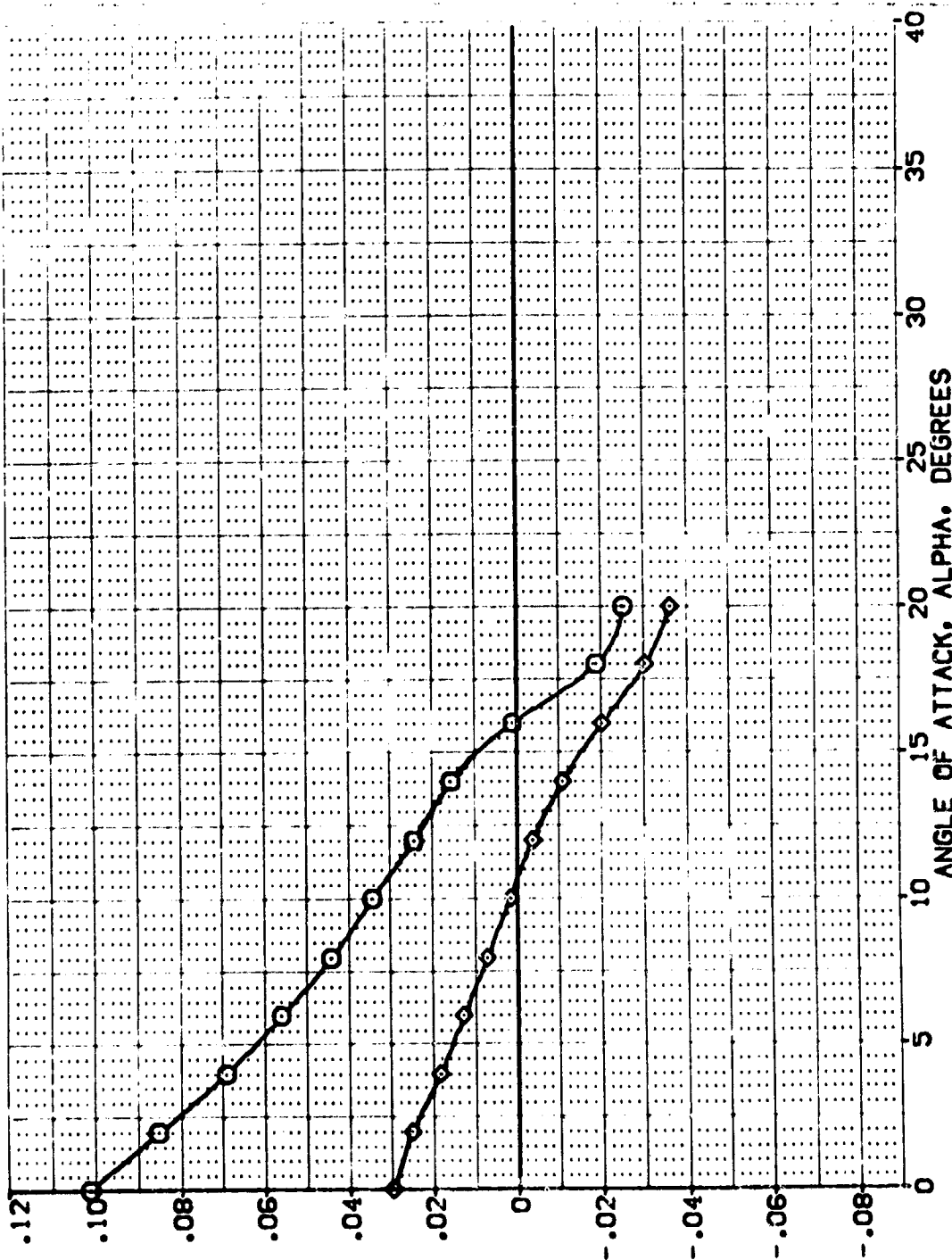
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)MACH = .89

DATA SET SYMBOL: 1422001, 1422117, 1422002
 CONFIGURATION DESCRIPTION: MSFC 581(CA43) OFB 34-0 (BDM) (VE)(VR), DATA NOT AVAILABLE, MSFC 581(CA43) OFB 34-0 (BDM) (VE)(VR)

DELEV: -33.650, -23.840, -15.550
 BOFLAP: -11.700, -11.700, -11.700
 SPDRBK: 25.550, 25.550, 25.550
 AILRON: -.320, -.240, -.400

REFERENCE INFORMATION:
 SREF: 2741.8000 SQ. FT.
 LREF: 481.6480 IN.
 BREF: 936.7000 IN.
 XREF: 1081.3900 IN.
 YREF: .0000 IN.
 ZREF: .0000 IN.
 SCALE: .0040

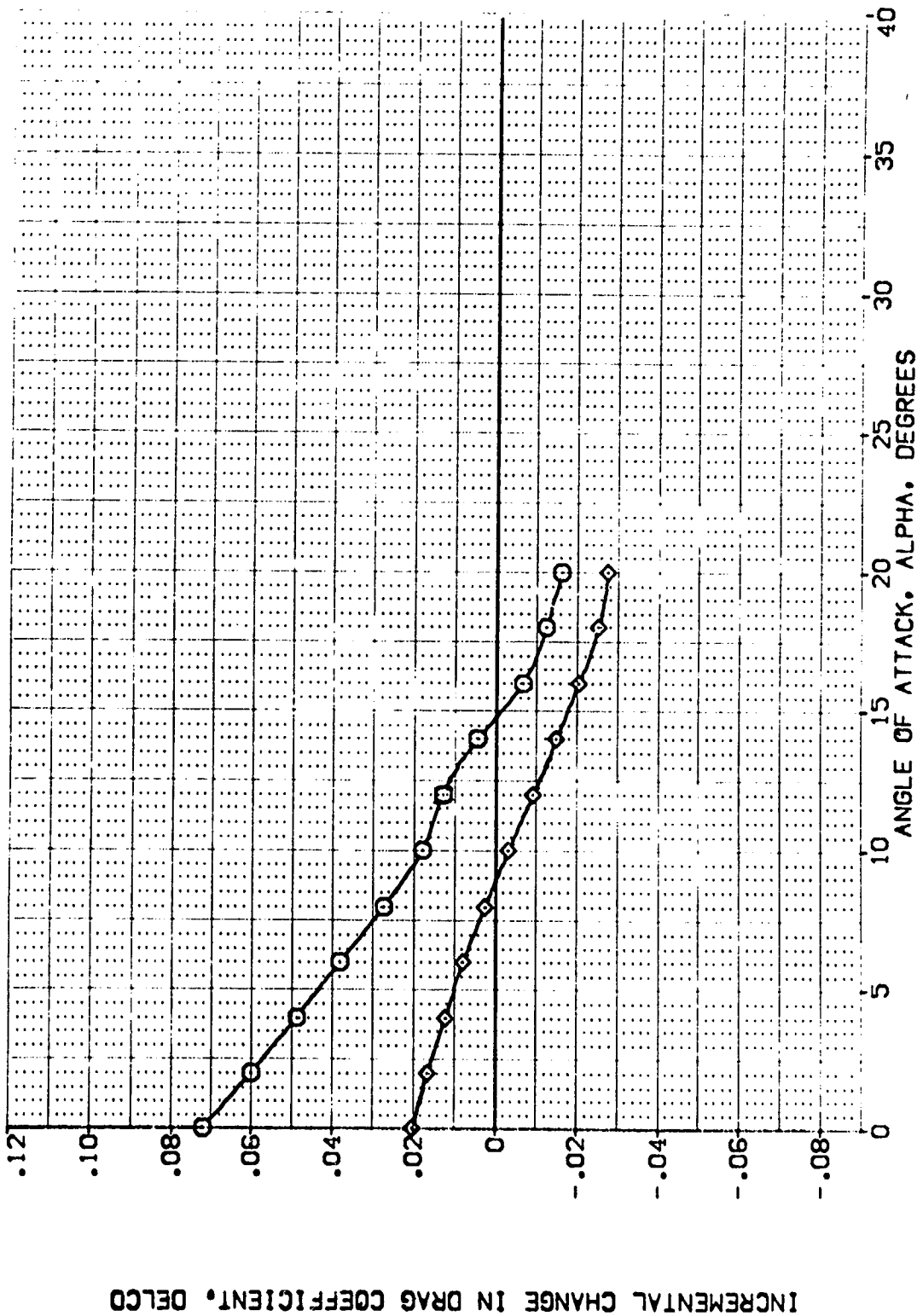


INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)MACH = 1.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(H2001)	MSFC 581 (0A19) ORB 34-0 (BOTH) (VE)(VR)	-33.650	-11.700	25.550	-1.320	SREF 2741.8000 SQ. FT
(H2017)	DATA NOT AVAILABLE	-23.840	-11.700	25.550	-1.240	LREF 481.6480 IN.
(H2002)	MSFC 581 (0A19) ORB 34-0 (BOTH) (VE)(VR)	-15.550	-11.700	25.550	-1.400	BREF 936.7000 IN.
						YMRP 1081.2900 IN.
						ZMRP .0000 IN.
						SCALE .0040



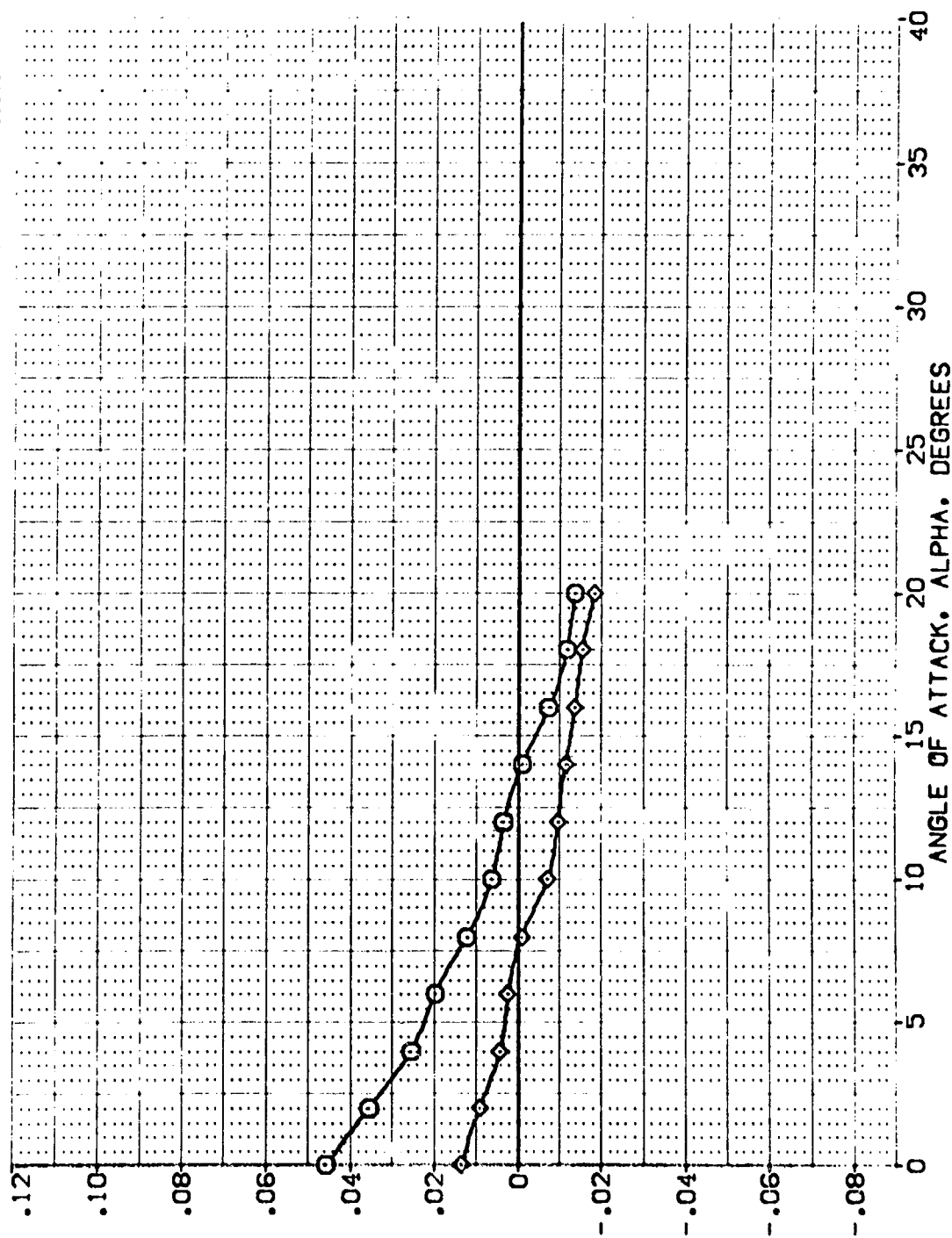
INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D)MACH = 1.46

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (H92001) HSC 581(0A49) 0R8 34-0 (BOFM) (VE)(VR)
 (H92117) DATA NOT AVAILABLE
 (H92002) HSC 581(0A49) 0R8 34-0 (BOFM) (VE)(VR)

DELEVR BOFLAP SPDSBK AIRLON REFERENCE INFORMATION
 -39.650 -11.700 25.550 -0.320 SREF 2741.8000 SQ. FT
 -23.840 -11.700 25.550 -0.240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -0.400 BREF 936.7000 IN.
 XMRP 1081.3800 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

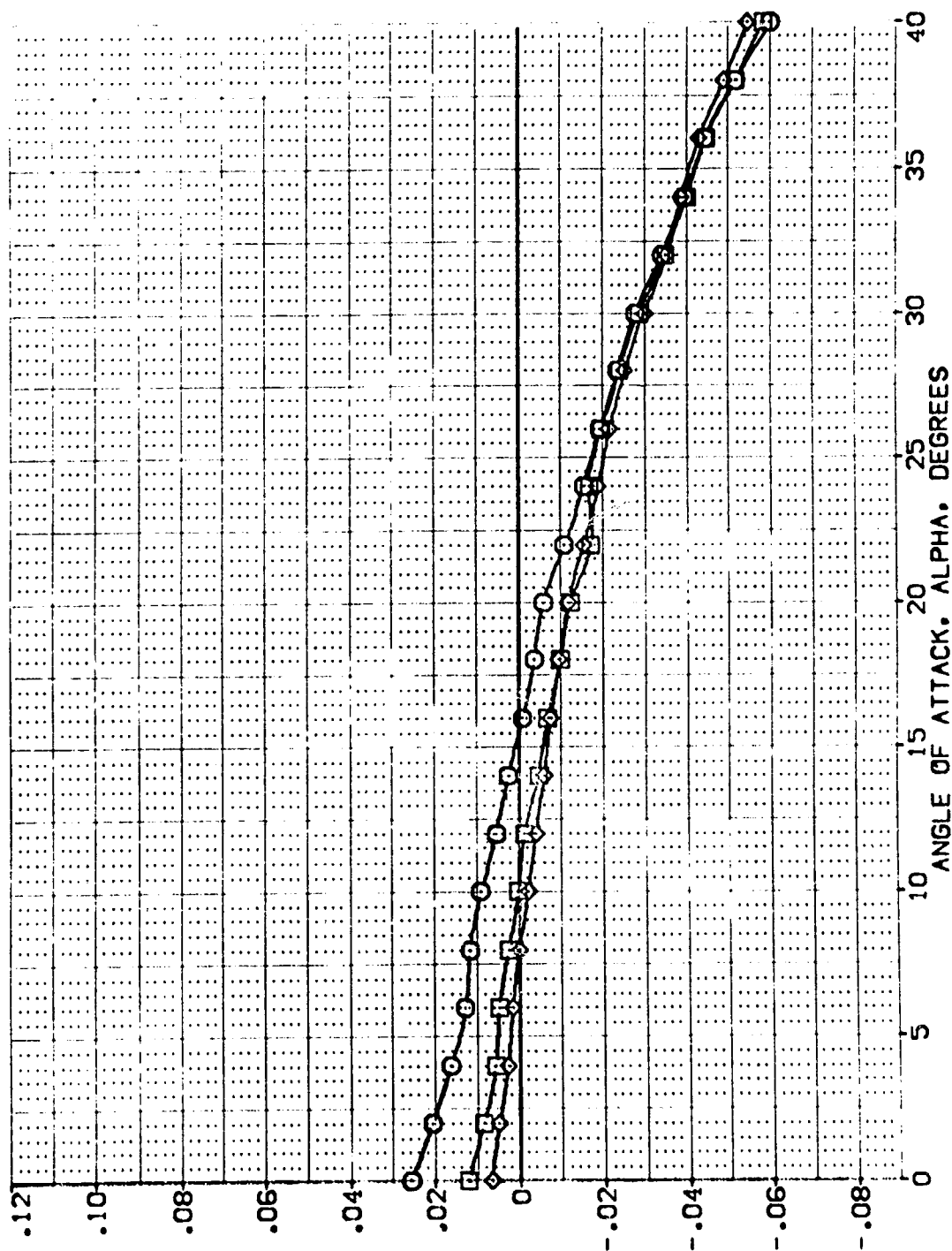
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)MACH = 1.95



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELC0

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
{H92001}	MSFC 581(OA49) DB 3A-O (BOFM) (VE)(VR)	-39.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
{H92117}	MSFC 581(OA49) DB 3A-O (BOFM) (VE)(VR)	-23.870	-11.700	25.550	-0.240	LREF 81.6480 IN.
{H92002}	MSFC 581(OA49) DB 3A-O (BOFM) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
						XMPP 1081.3500 IN.
						YMPP .0000 IN.
						ZMPP .0000 IN.
						SCALE .0040



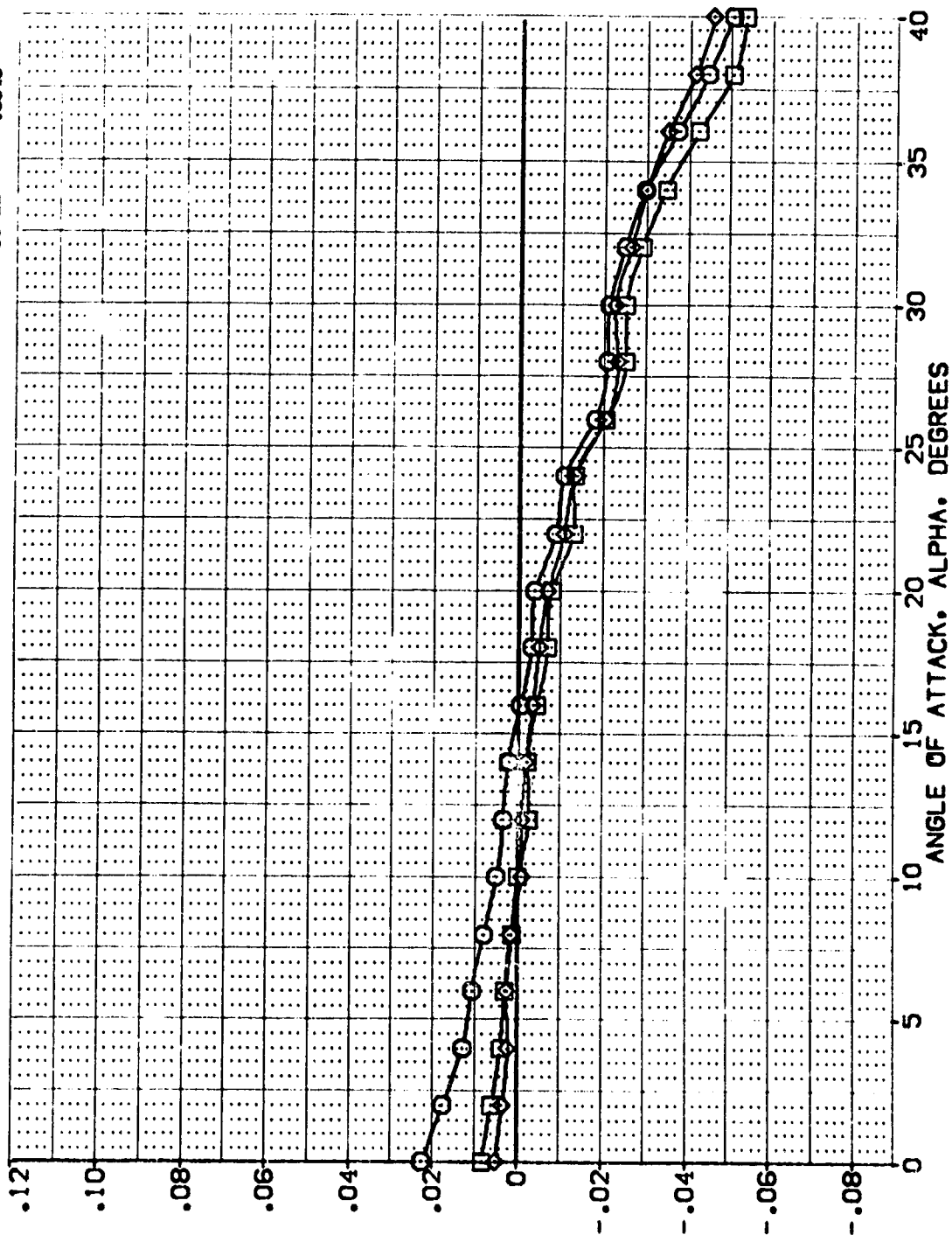
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(F)MACH = 2.99

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {H82001} H82C 581(OA19) 058 34-0 (BOFM) (VE)(VR)
 {H82117} H82C 581(OA19) 058 34-0 (BOFM) (VE)(VR)
 {H82002} H82C 581(OA19) 058 34-0 (BOFM) (VE)(VR)

DELEV R BOFLAP SPDRBK AILRON
 -33.650 -11.700 25.550 -320
 -23.840 -11.700 25.550 -240
 -15.550 -11.700 25.550 -400

REFERENCE INFORMATION
 SREF 2741.8000 SQ: FT
 LREF 481.6480 IN:
 BREF 536.7000 IN:
 XMRP 1081.3800 IN:
 YMRP .0000 IN:
 ZMRP .0000 IN:
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

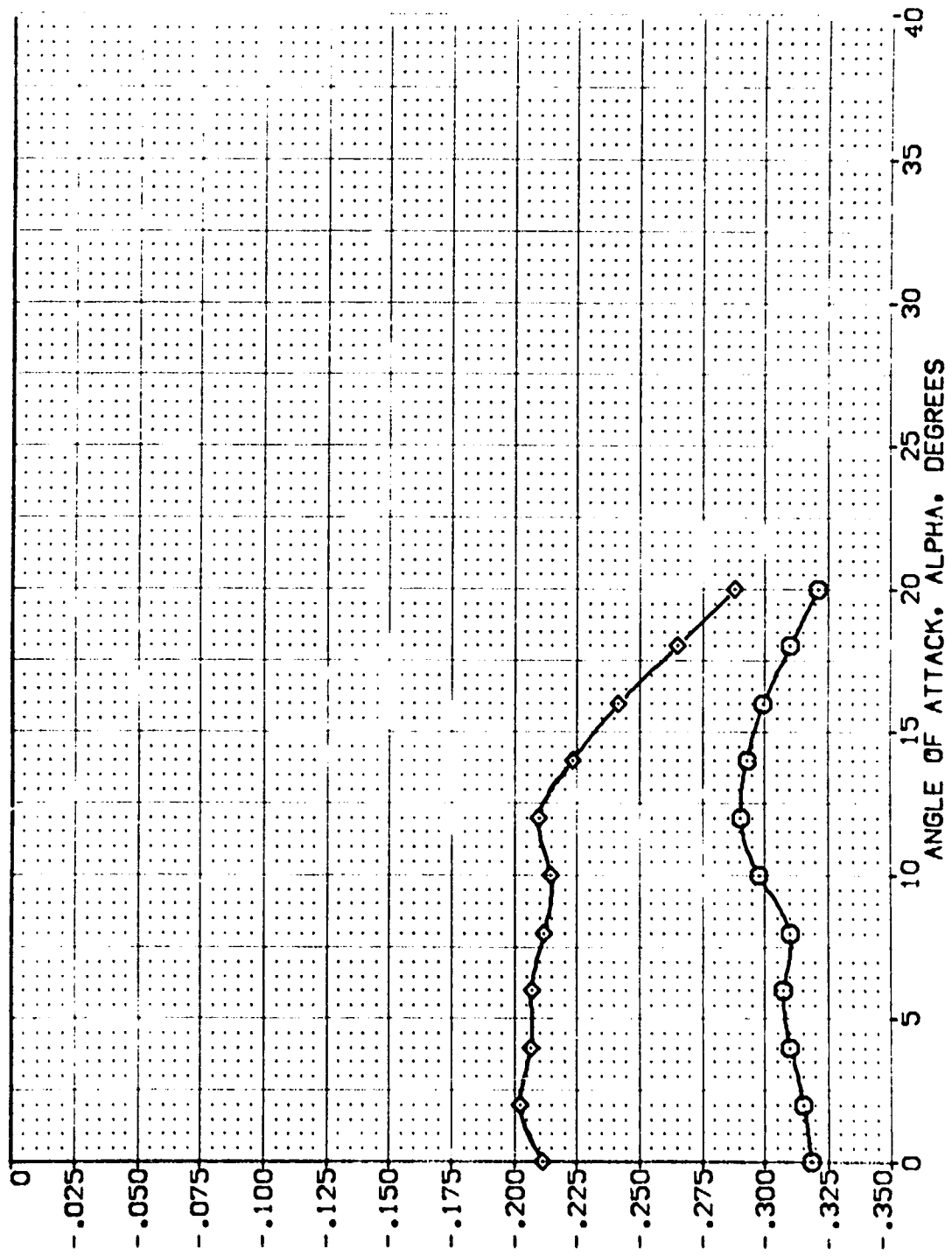
(G)MACH = 4.96



DATA SET SYMBOL	CD-5 ILLUSTRATION DESCRIPTION	(VE) (VR)	(VE) (VR)
{H52001}	MSFC 501 (0449) 05B 34-0 (BCFM)		
{H52117}	DATA NOT AVAILABLE		
{H52002}	MSFC 501 (0449) 05B 34-0 (BCFM)		

DELEVR	BOFLAP	SPOBRK	ALIRON
-33.650	-11.700	25.550	- .320
-23.840	-11.700	25.550	- .240
-15.550	-11.700	25.550	- .400

REFERENCE INFORMATION	
SREF	2741.8000 SQ. FT
LREF	481.6480 IN.
BREF	936.7000 IN.
XPRP	1081.3500 IN.
YPRP	.0000 IN.
ZPRP	.0000 IN.
SCALE	.0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

$$[A]_{MACH} = .60$$

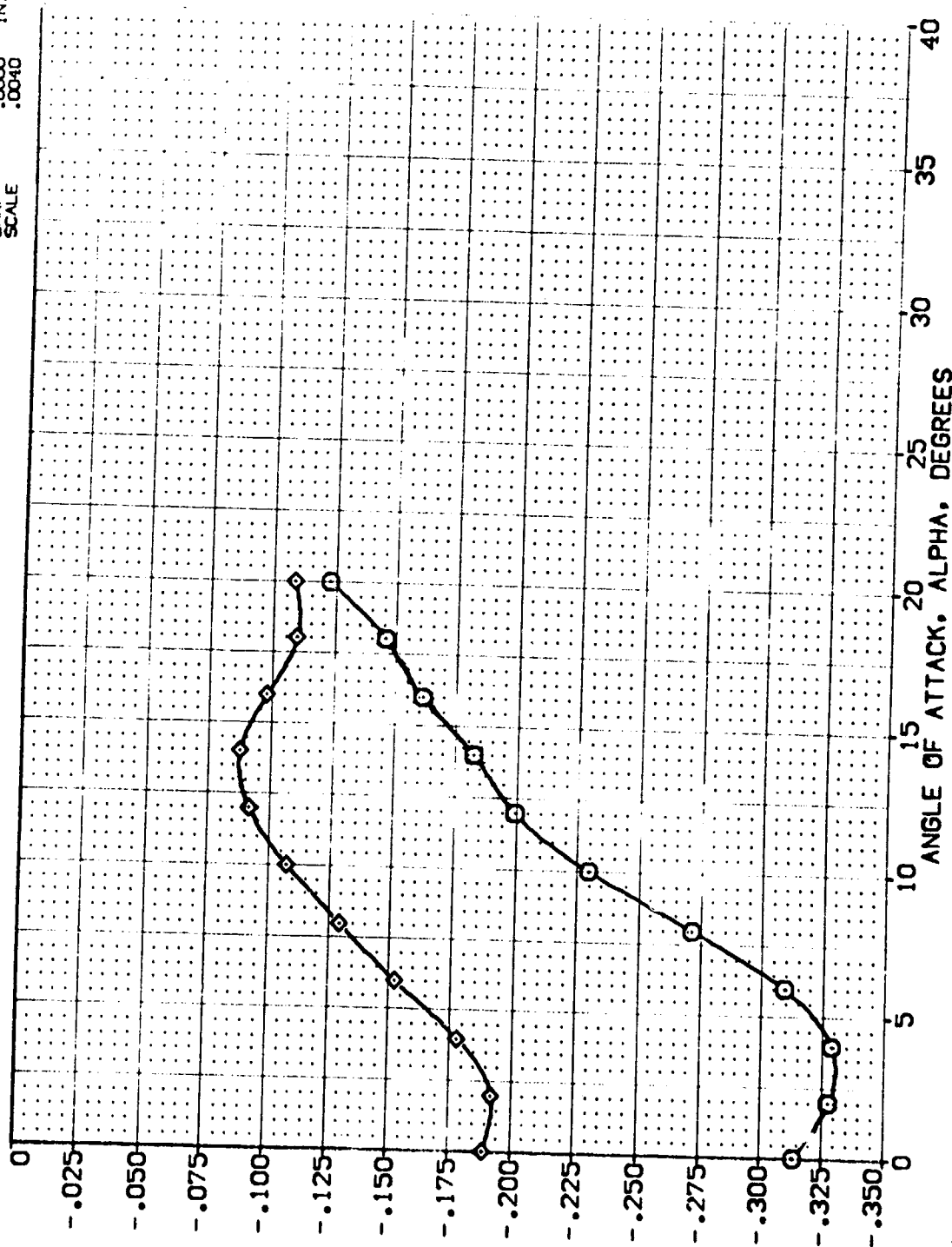
DATA SET SYMBOL
(1-82001)
(1-82017)
(1-82002)

CONFIGURATION DESCRIPTION
MSFC 581(0419) ORB 34-0 (BDFM) (VE)(VR)
DATA NOT AVAILABLE
MSFC 581(0419) ORB 34-0 (BDFM) (VE)(VR)

DELEV R BDFLAP SPOBRK AILRON
-33.650 -11.700 25.550 -320
-23.840 -11.700 25.550 -240
-15.550 -11.700 25.550 -400

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 935.7000 IN.
XPRP 1081.3900 IN.
YPRP .0000 IN.
ZPRP .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)MACH = .89

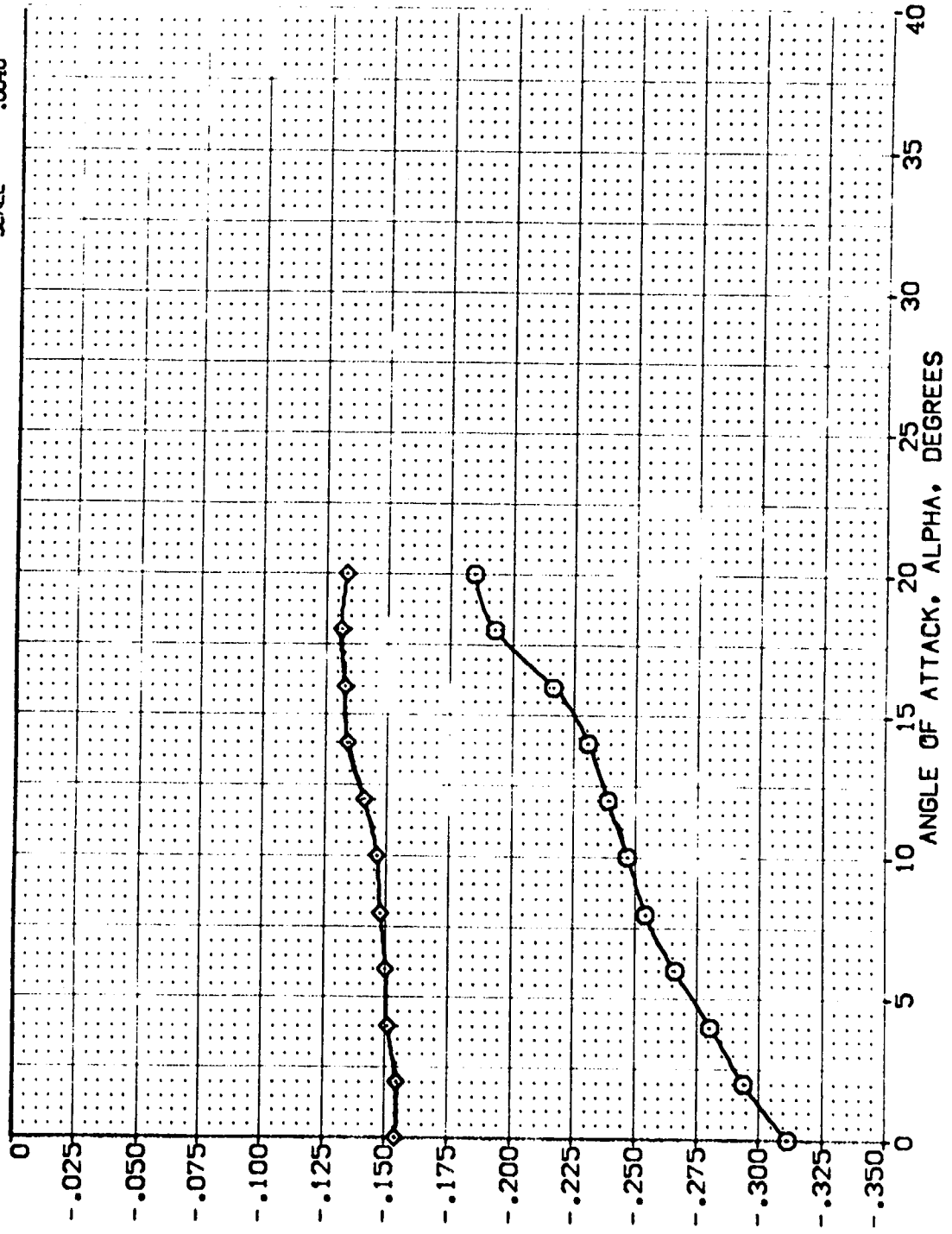
DATA SET SYMBOL: MSFC 581(0A49) ORB 34-0 (BOFH) (VE)(VR)
 {H2001}
 DATA NOT AVAILABLE
 {H2117}
 MSFC 581(0A49) ORB 34-0 (BOFH) (VE)(VR)
 {H2002}

CONFIGURATION DESCRIPTION

DELEVR BOFLAP SPOBRK ALLRON REFERENCE INFORMATION

DELEVR	BOFLAP	SPOBRK	ALLRON	REFERENCE INFORMATION
-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
-23.840	-11.700	25.550	-240	LREF 481.6480 IN.
-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
				XMRP 1081.3500 IN.
				YMRP .0000 IN.
				ZMRP .0000 IN.
				SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



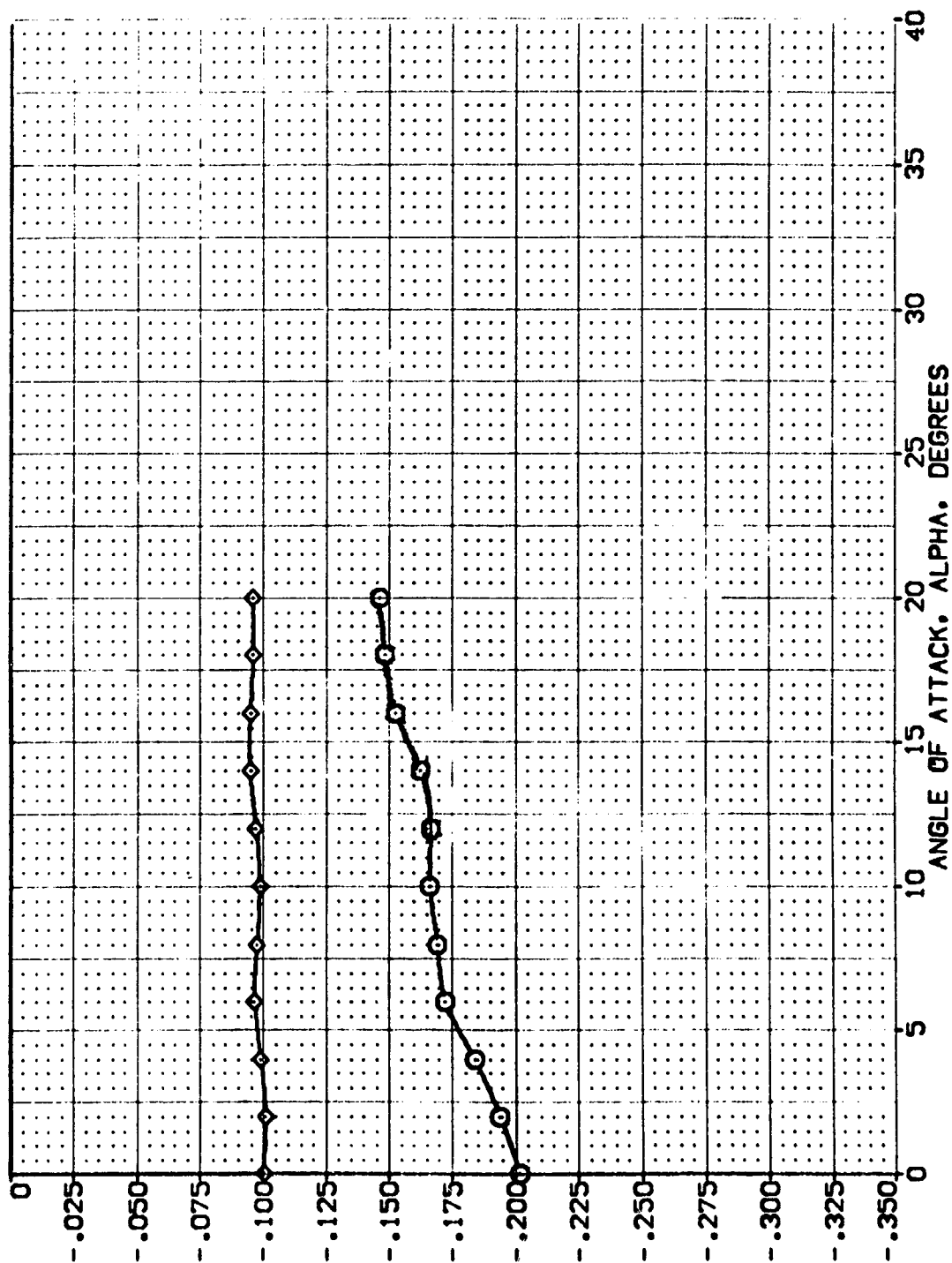
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)MACH = 1.20

DATA SET SYMBOL. CONFIGURATION DESCRIPTION
 {H2001} MSFC 581(0A49) 078 34-0 (BDFM) (VE)(VR)
 {H2117} DATA NOT AVAILABLE
 {H2002} MSFC 581(0A49) 078 34-0 (BDFM) (VE)(VR)

DELEVR BDFLAP SPOBRK AILRON REFERENCE INFORMATION
 -39.650 -11.700 25.550 -1.320 SREF 2741.8000 SQ. FT
 -23.840 -11.700 25.550 -1.240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -1.400 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP 0.0000 IN.
 ZMRP 0.0000 IN.
 SCALE 0.0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D)MACH = 1.46



DATA SET SYMBOL

[H2001]
[H2002]

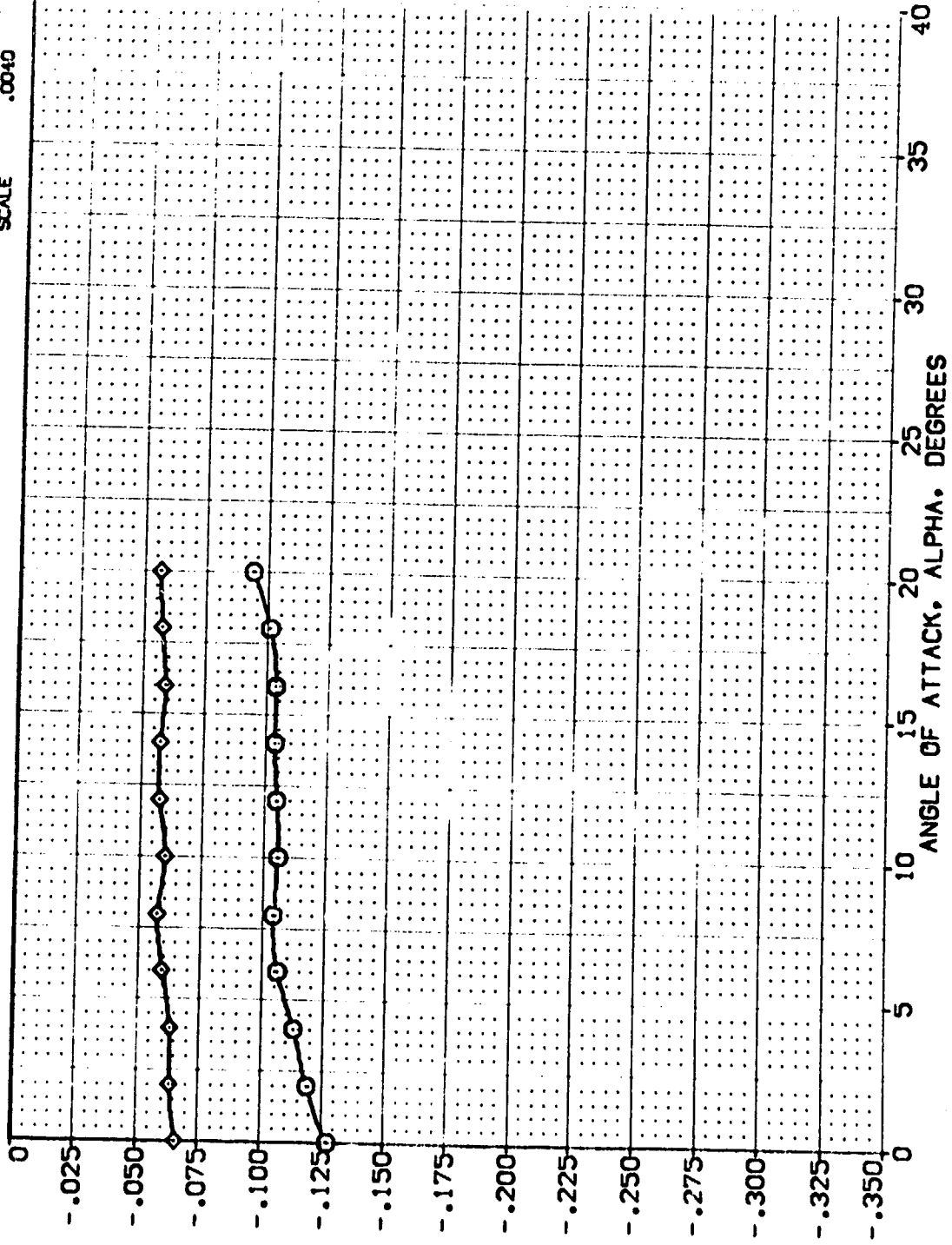
CONFIGURATION DESCRIPTION

MSFC 581(0A49) ORB 34-0 (BCFH) (VE)(VR)
DATA NOT AVAILABLE
MSFC 581(0A49) ORB 34-0 (BCFH) (VE)(VR)

DELEVR BOFLAP SPDBRK AILRON
-23.650 -11.700 25.550 -0.320
-23.640 -11.700 25.550 -0.240
-15.550 -11.700 25.550 -0.400

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

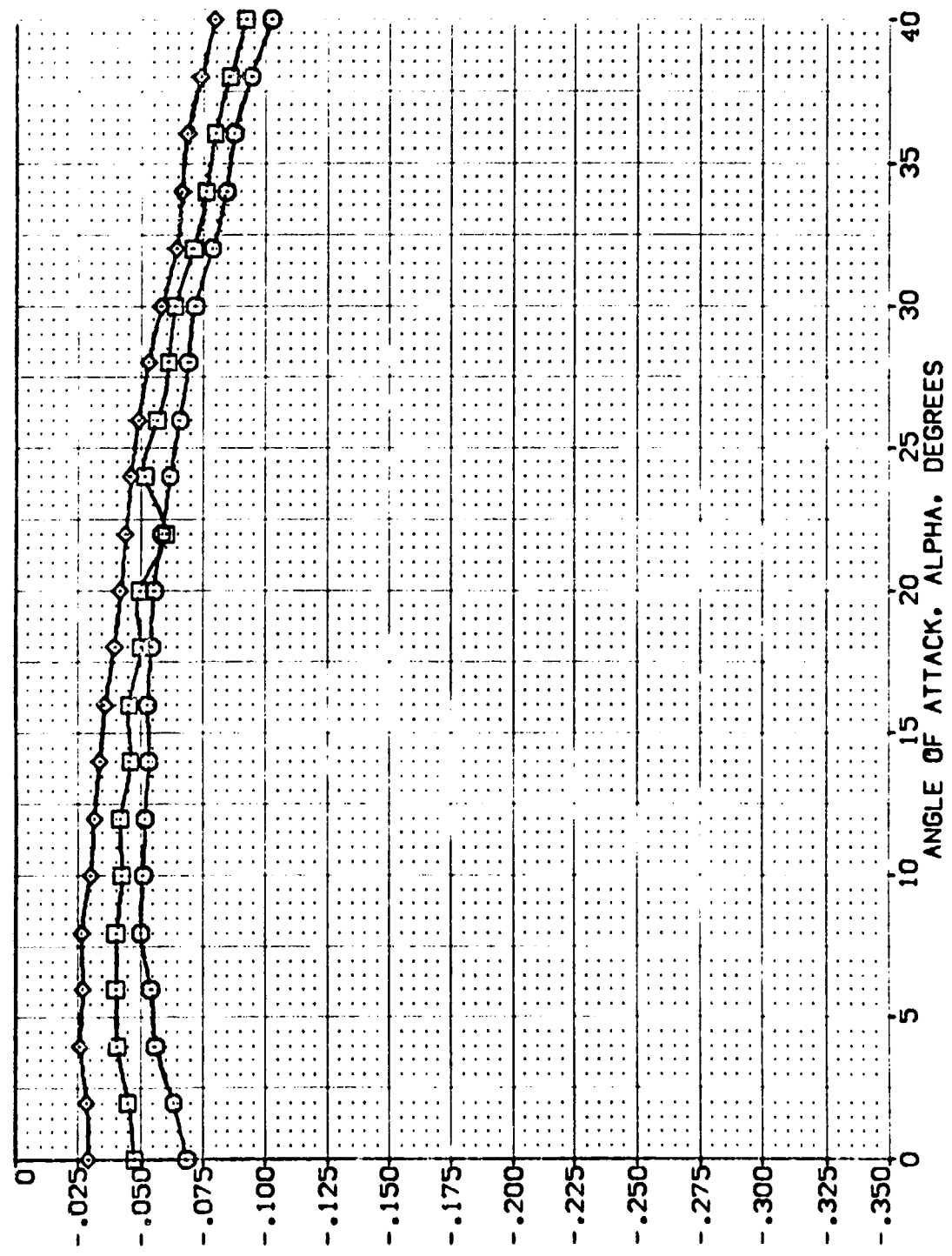
(E)MACH = 1.95



DATA SET SYMBOL CONFIGURATION DESCRIPTION DELEVR BDFLAP SPDBRK AILRON REFERENCE INFORMATION

{H2001}	MSFC 581(0A49) 028 34-0 (BDFM) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
{H2002}	MSFC 581(0A49) 028 34-0 (BDFM) (VE)(VR)	-23.840	-11.700	25.550	-240	LREF 481.6480 IN.
{H2002}	MSFC 581(0A49) 028 34-0 (BDFM) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
						YMRP 1081.3500 IN.
						ZMRP .0000 IN.
						SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



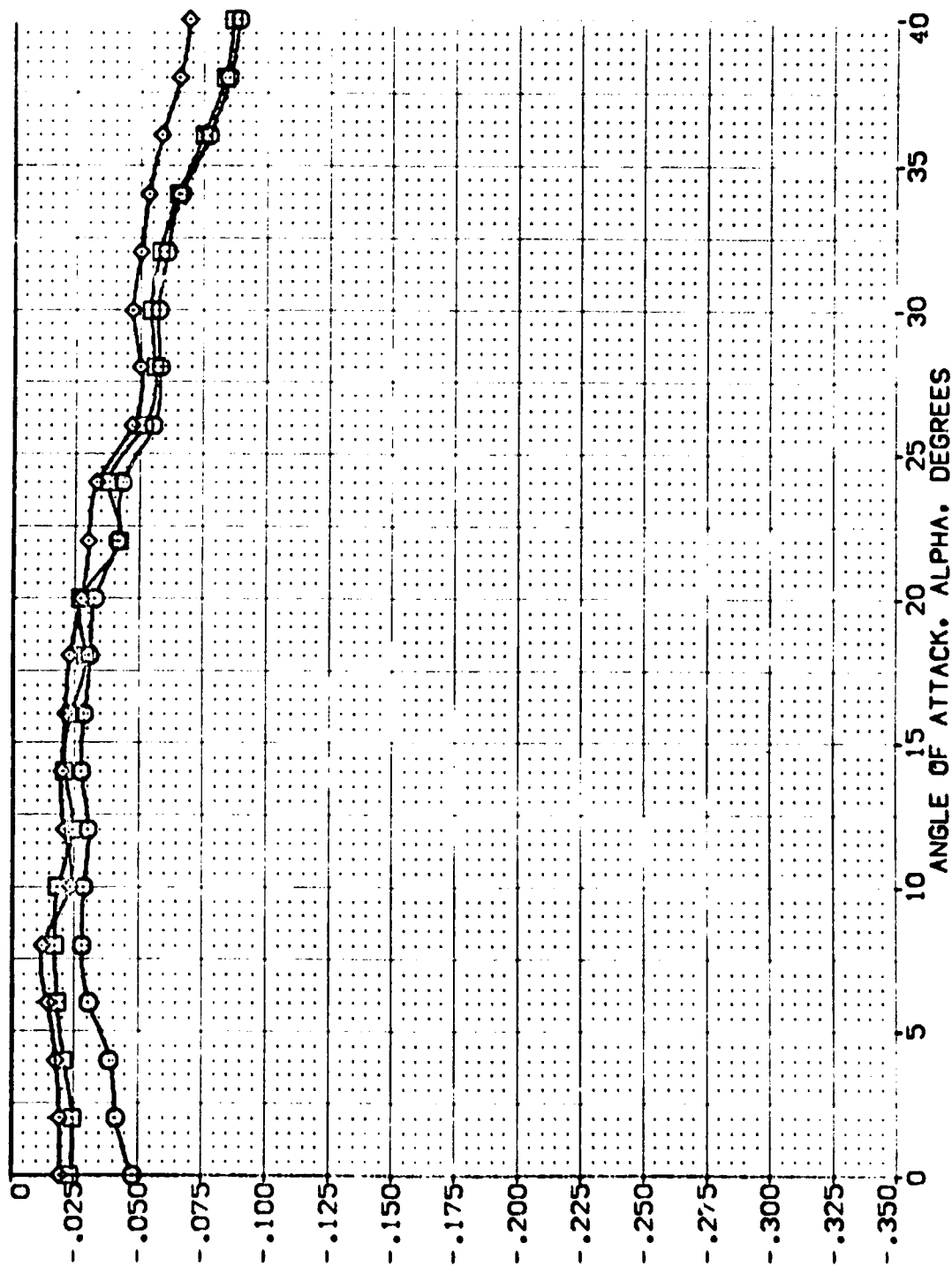
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(F)MACH = 2.99

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(1-92001)	MSFC 581(DA19) 053 34-0 (BDCH) (VE)(VR)	DELEVR	BDCLAP	SPDBRK	AILRON	REFERENCE INFORMATION
(1-92117)	MSFC 581(DA19) 053 34-0 (BDCH) (VE)(VR)	-33.650	-11.700	25.550	-370	SREF 2741.8000 50. FT
(1-92002)	MSFC 581(DA19) 053 34-0 (BDCH) (VE)(VR)	-23.640	-11.700	25.550	-240	LREF 481.6480 IN.
		-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
						XPRP 1081.3900 IN.
						YPRP .0000 IN.
						ZPRP .0000 IN.
						SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



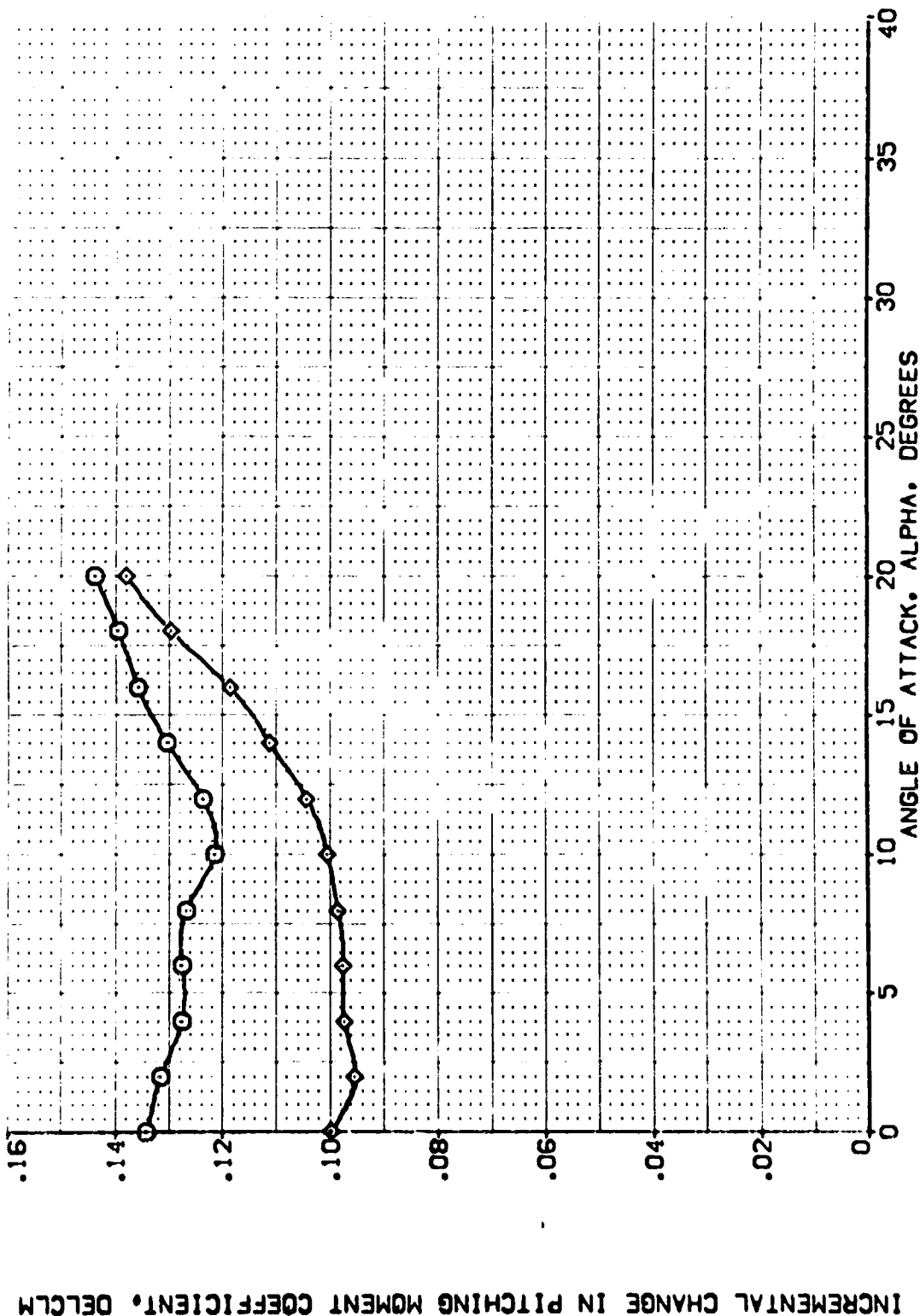
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(G)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (H92001) MSC 581(CA49) 088 34-0 (BDFM) (VE)(VR)
 (H92117) DATA NOT AVAILABLE
 (H92002) MSC 581(CA49) 088 34-0 (BDFM) (VE)(VR)

DELEV R BDFLAP SPOBRK AILRON
 -33.650 -11.700 25.550 -320
 -23.840 -11.700 25.550 -240
 -15.550 -11.700 25.550 -100

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(AJMACH = .60

DATA SET SYMBOL: (1492001) (1492117) (1492002)

CONFIGURATION DESCRIPTION: HSC 581(OA49) ORB 34-0 (BOFM) (VE)(VR) DATA NOT AVAILABLE HSC 581(OA49) ORB 34-0 (BOFM) (VE)(VR)

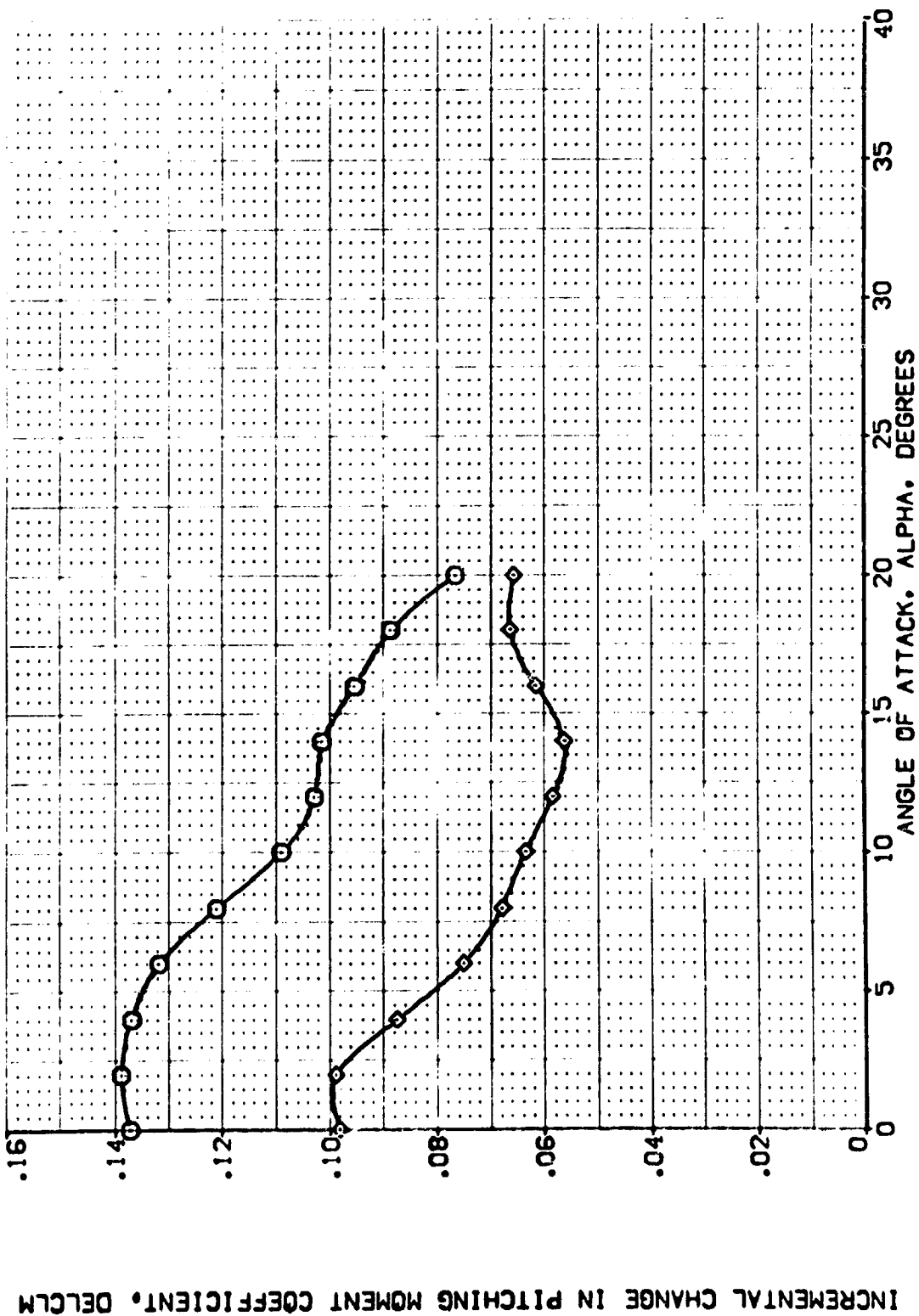
DELEV: -33.550 -23.840 -15.550

BOFLAP: -11.700 -11.700 -11.700

SPDRK: 25.550 25.550 25.550

ALLON: -320 -240 -400

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BRREF 536.7000 IN. XMRP 1081.3500 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040



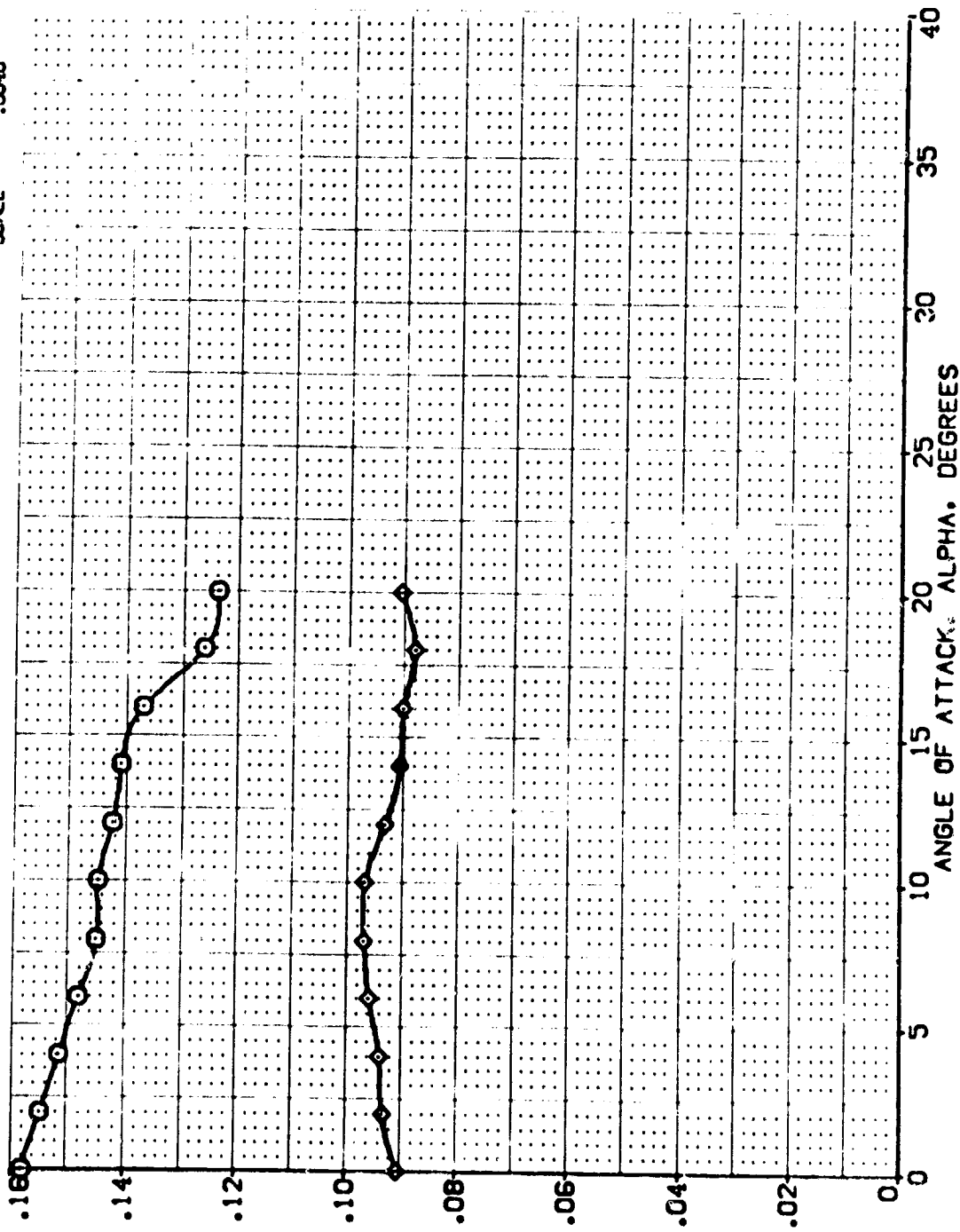
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)MACH = .89

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 1420011} MFC 501(0445) 000 34-0 (BDTH) (VE)(VR)
 1420017} DATA NOT AVAILABLE
 1420022} MFC 501(0445) 000 34-0 (BDTH) (VE)(VR)

DELEV R BDCLAP SPDBRK AILRON REFERENCE INFORMATION
 -20.550 -11.700 25.550 -320 SREF 2741.8000 SQ. FT
 -23.840 -11.700 25.550 -240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -400 BREF 936.7000 IN.
 XREF 1081.2800 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCM



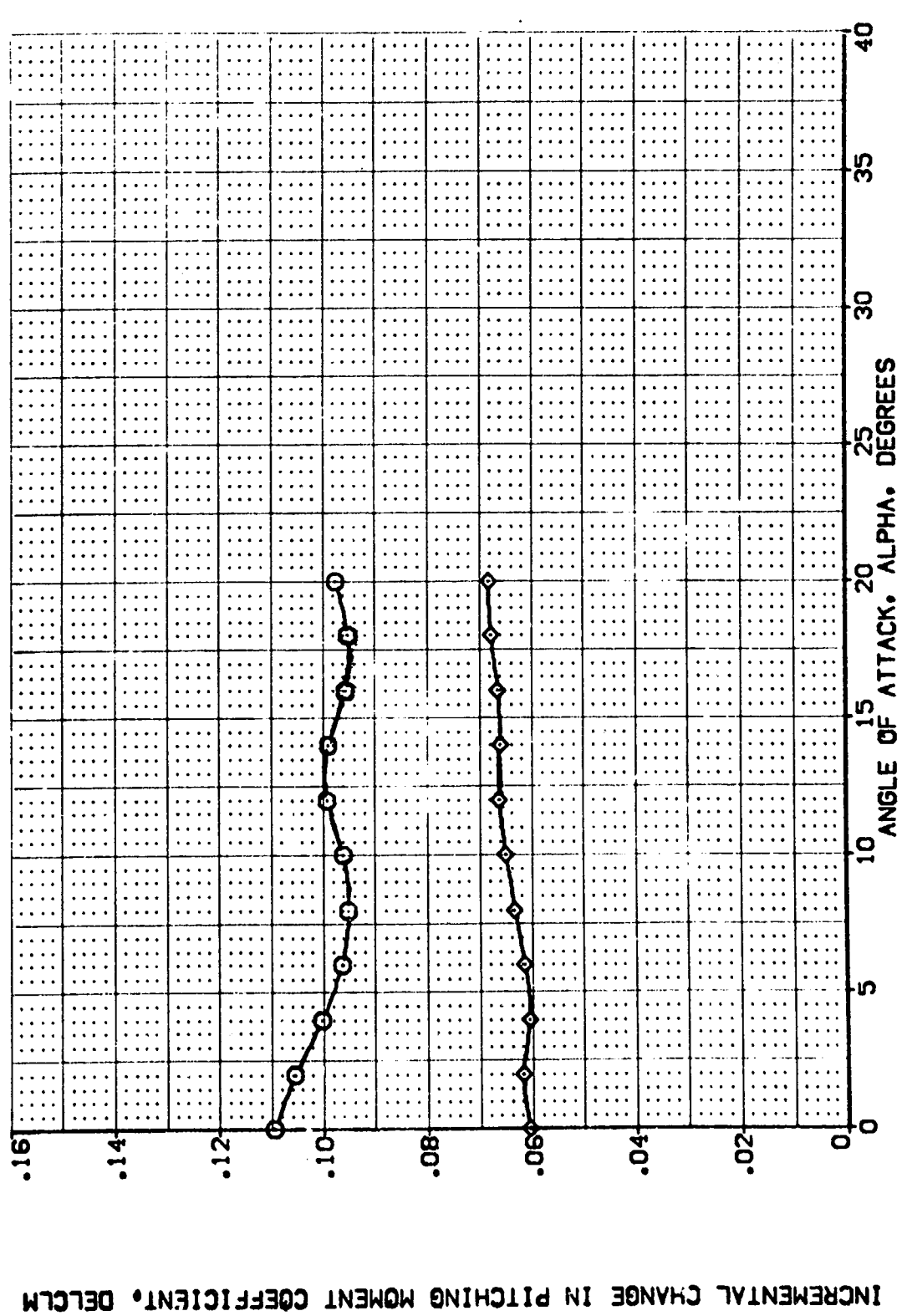
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)MACH = 1.20

DATA SET SYMBOL: 1422001, 1422002
 CONFIGURATION DESCRIPTION: HFC 581 (04-19) DB 34-0 (BDFH) (VE)(VR)
 DATA NOT AVAILABLE
 HFC 581 (04-19) DB 34-0 (BDFH) (VE)(VR)

DELEVR: -33.850, -23.840, -15.550
 BOFLAP: -11.700, -11.700, -11.700
 SPOBRK: 25.550, 25.550, 25.550
 AILPCN: -.320, -.240, -.400

REFERENCE INFORMATION:
 SREF: 2741.8000 80. FT
 LREF: 481.6480 IN.
 BREF: 936.7000 IN.
 XMRP: 1081.3900 IN.
 YMRP: .0000 IN.
 ZMRP: .0000 IN.
 SCALE: .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(0.0)MACH = 1.46

DATA SET SYMBOL
{H2001}
{H2117}
{H2002}

CONFIGURATION DESCRIPTION
MSC 581(0A19) ORB 34-0 (BOFM) (VE){VR}
DATA NOT AVAILABLE
MSC 581(0A19) ORB 34-0 (BOFM) (VE){VR}

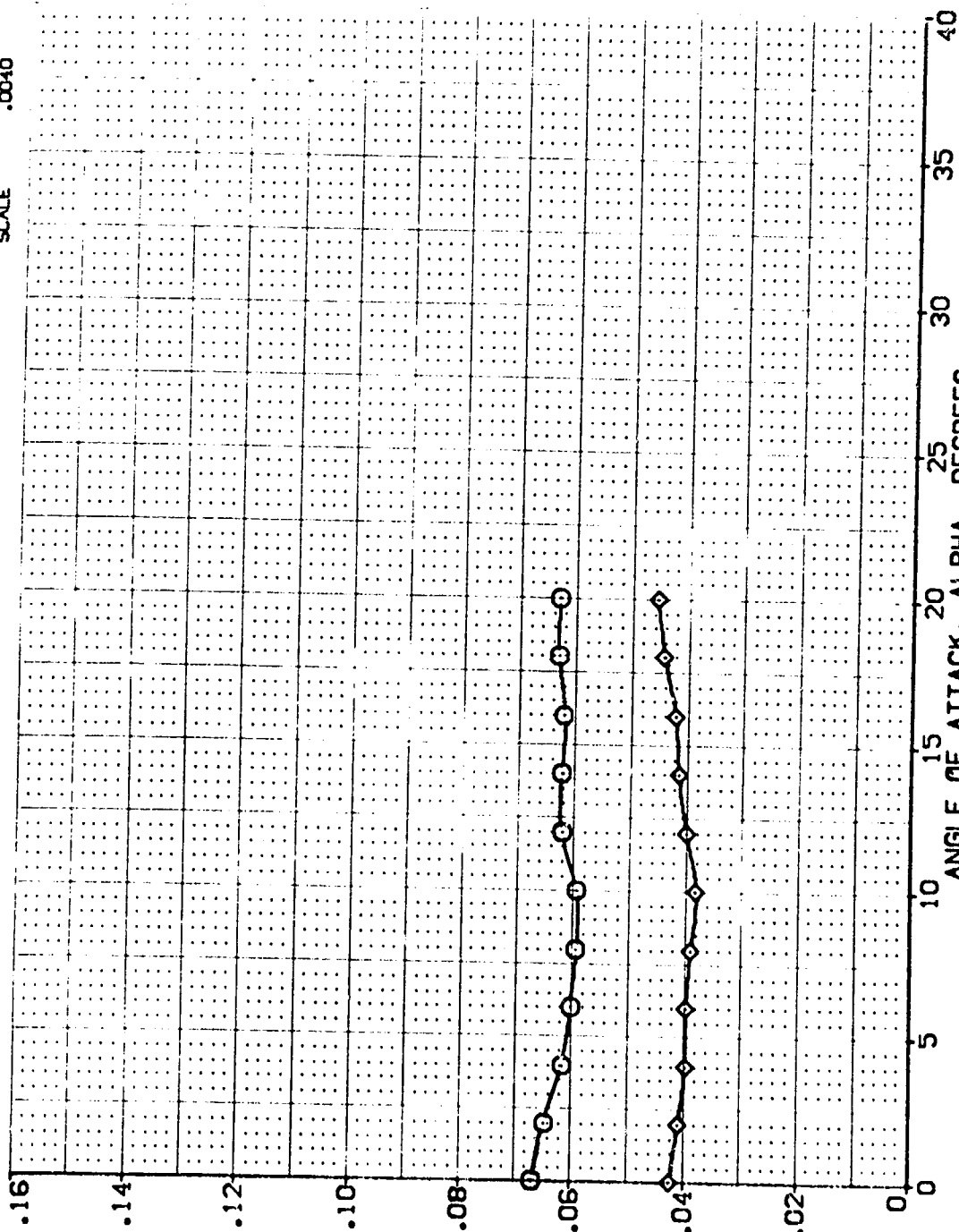
DELEVR -33.550
-23.840
-15.550

BOFLAP -11.700
-11.700
-11.700

SFOBRK 25.550
25.550
25.550

AILRON -0.320
-0.240
-0.400

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3800 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)MACH = 1.95

DATA SET SYMBOL: (H2001) (H2017) (H2002)

CONFIGURATION DESCRIPTION: H5FC 581(OA49) ORB 34-0 (BOCH) (VE)(VR) H5FC 581(OA49) ORB 34-0 (BOCH) (VE)(VR) H5FC 581(OA49) ORB 34-0 (BOCH) (VE)(VR)

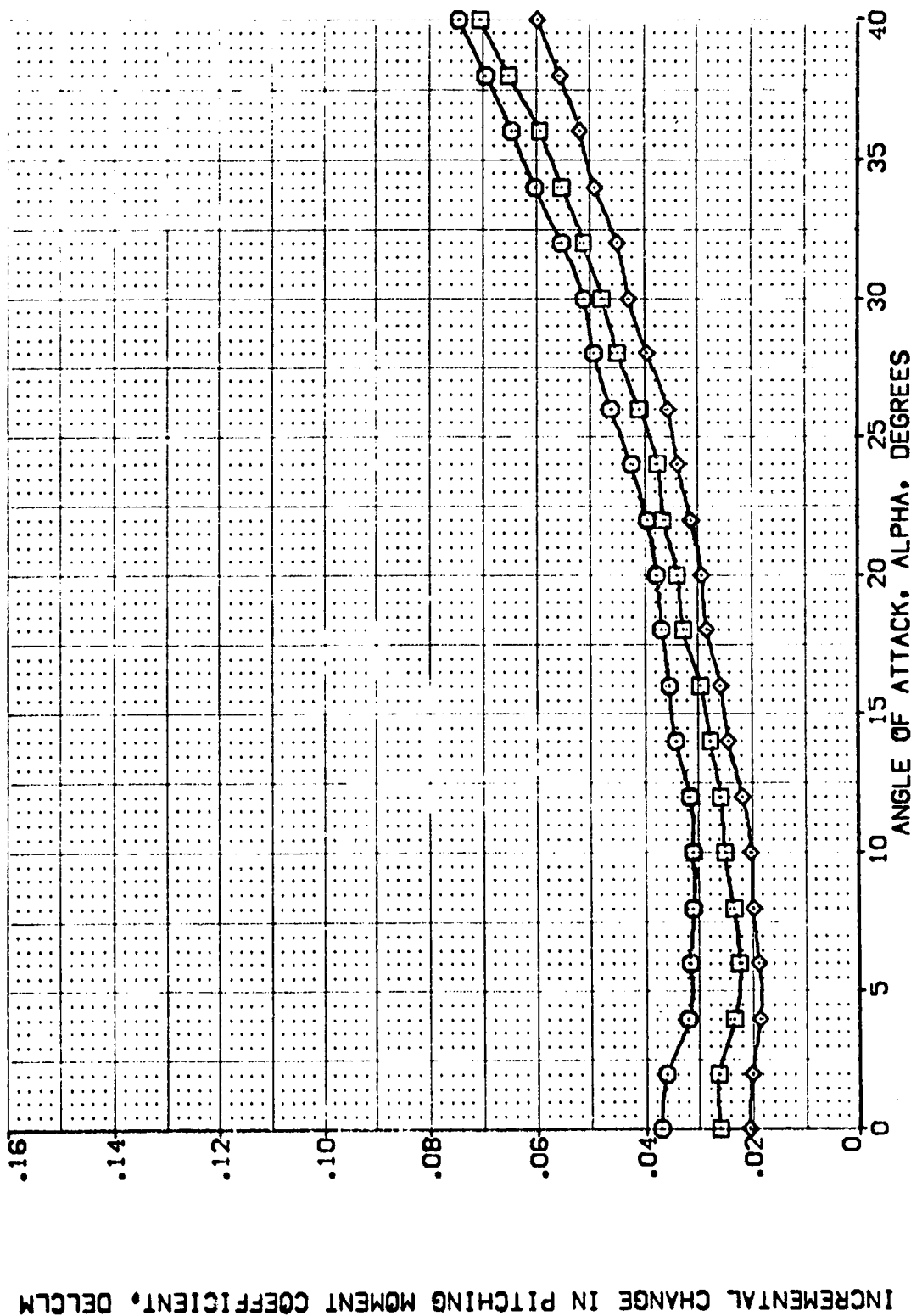
DELEVR: -33.650 -23.840 -15.550

BOFLAP: -11.700 -11.700 -11.700

SPDRBK: 25.550 25.550 25.550

AILRON: -320 -240 -400

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 936.7000 IN. XMRP 1081.3500 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(F)MACH = 2.99



DATA SET SYMBOL: {H2001} {H2117} {H2202}

CONFIGURATION DESCRIPTION: MSFC 591(OA19) 078 34-0 (BOFM) (VE)(VR) MSFC 591(OA19) 078 34-0 (BOFM) (VE)(VR) MSFC 581(OA19) 078 34-0 (BOFM) (VE)(VR)

DELEVR: -23.650 -23.840 -15.550

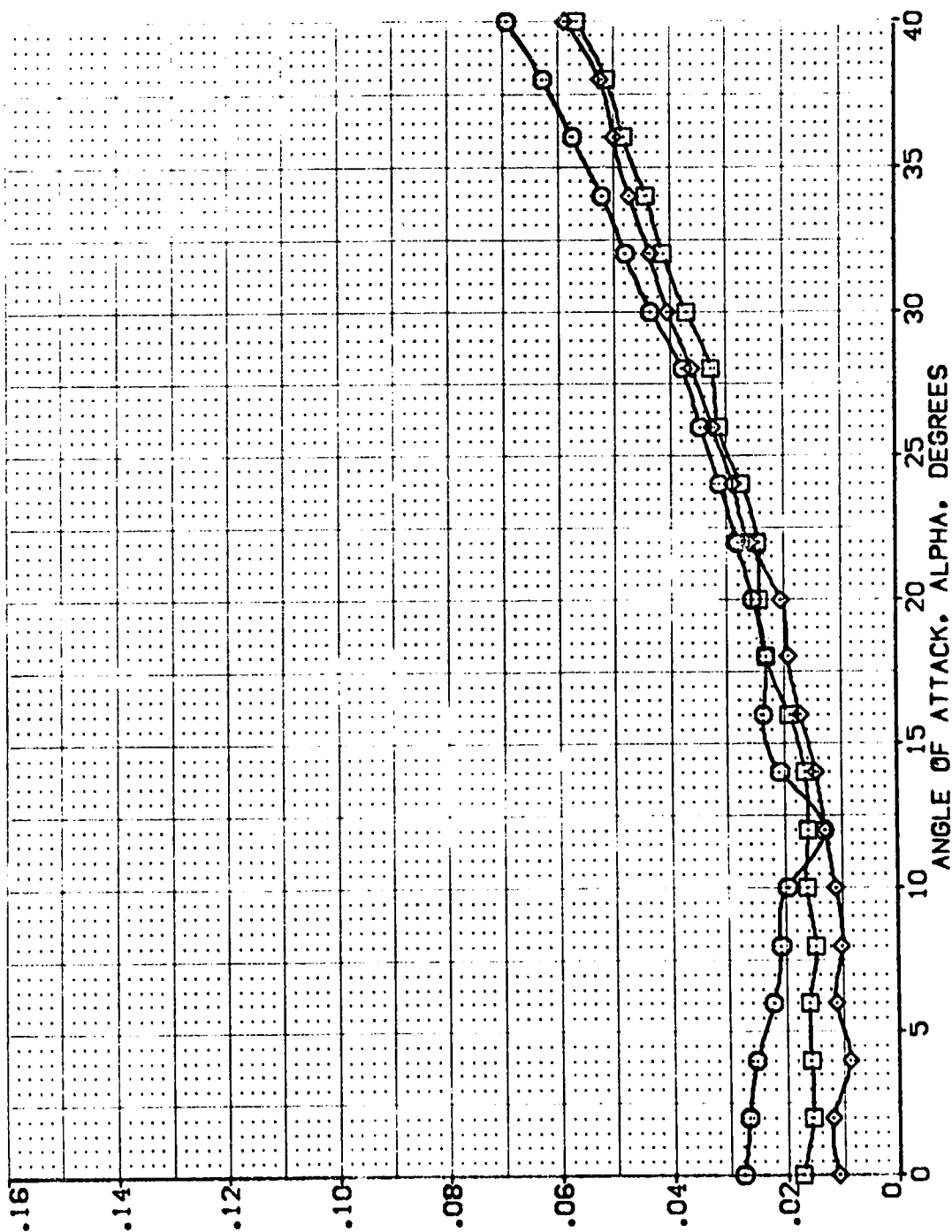
BOFLAP: -11.700 -11.700 -11.700

SPDRBK: 25.950 25.950 25.950

AILRON: -.320 -.320 -.320

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.8480 IN. BREF 936.7000 IN. XMRP 1081.3900 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

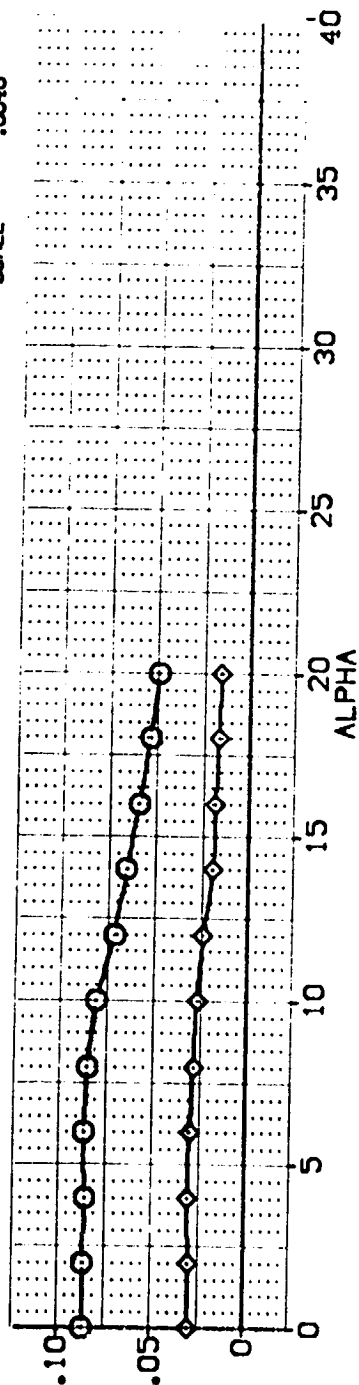
(G)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (H2001) MSFC 581(0A49) ORB 3A-0 (BOFM) (VE)(VR)
 (H2117) DATA NOT AVAILABLE
 (H2002) MSFC 581(0A49) ORB 3A-0 (BOFM) (VE)(VR)

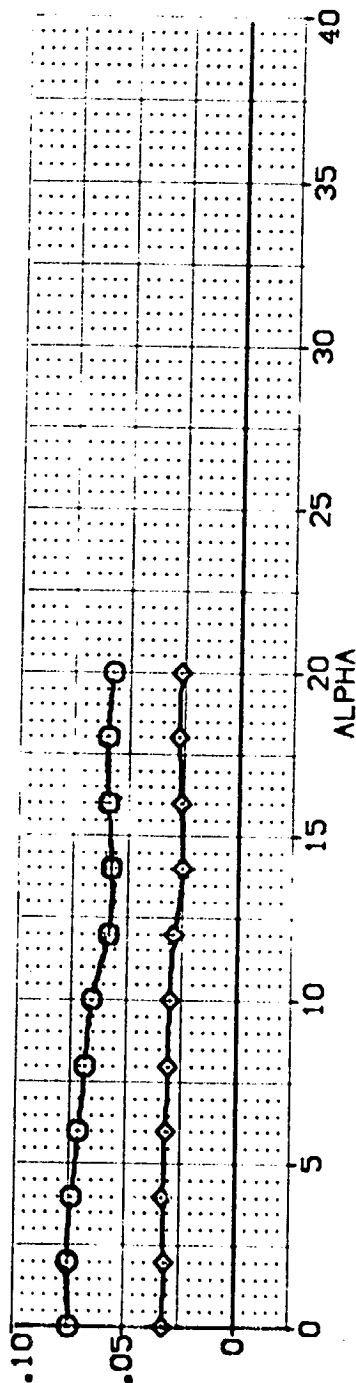
DELEVR BOFLAP SPOBRK AIRRON
 -39.650 -11.700 25.550 -300
 -23.840 -11.700 25.550 -240
 -15.550 -11.700 25.550 -400

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XPRP 1081.3900 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040

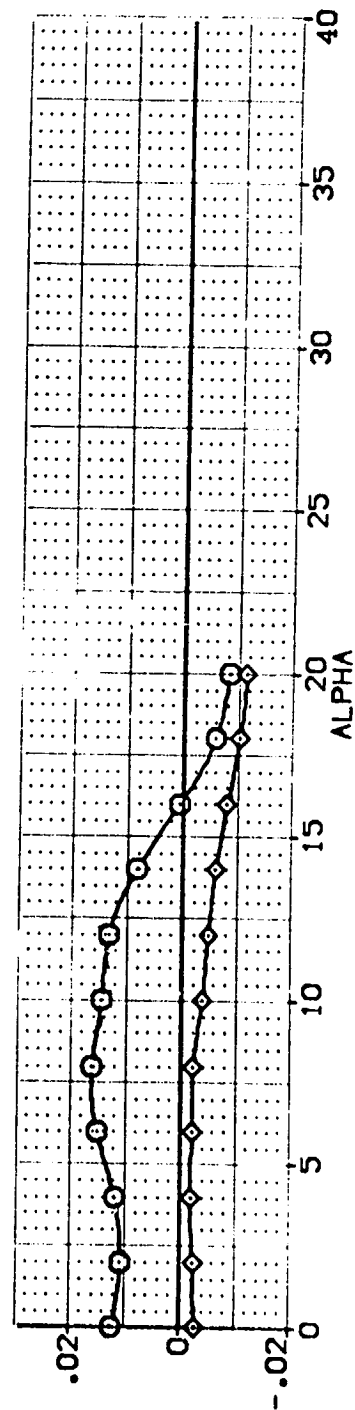
DELCP



DELCA




DELCB



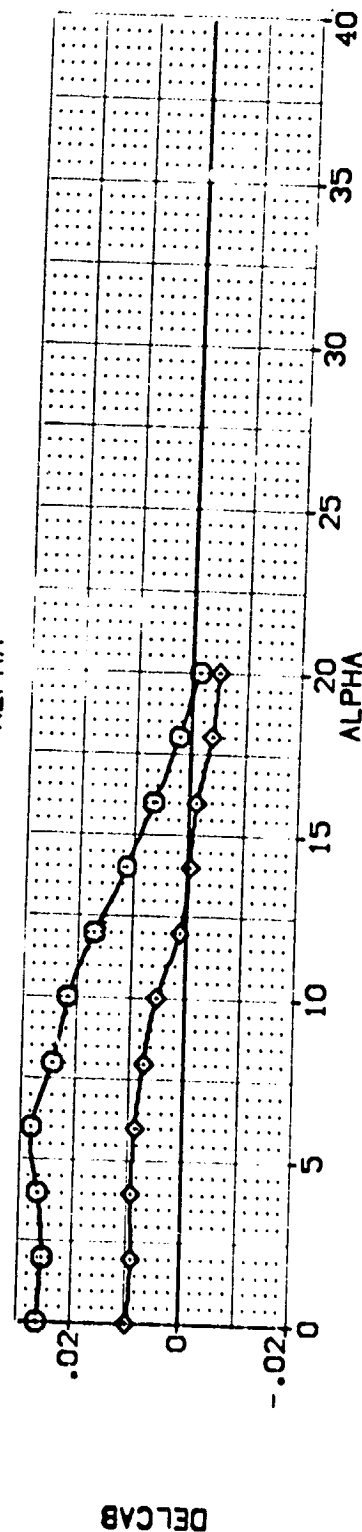
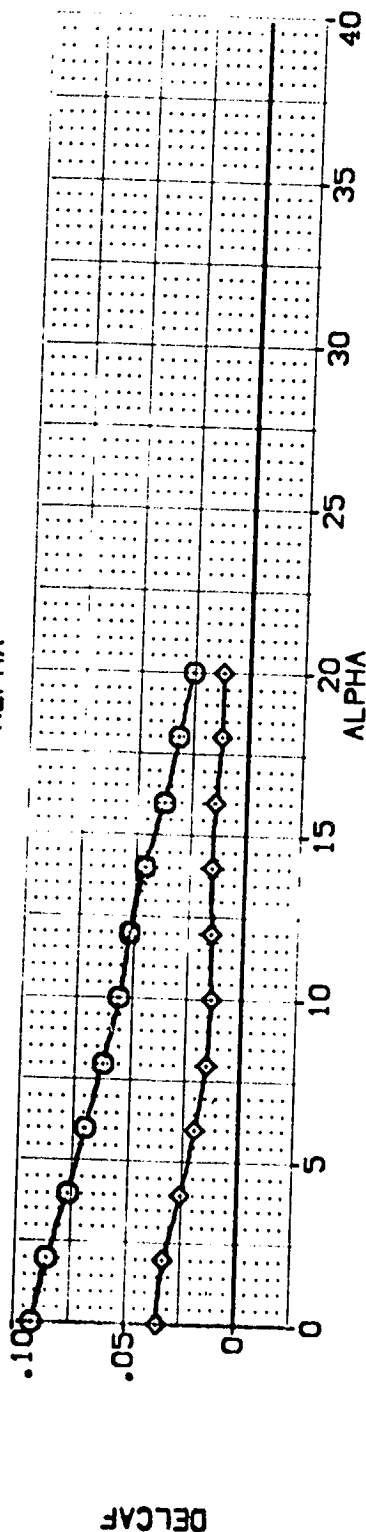
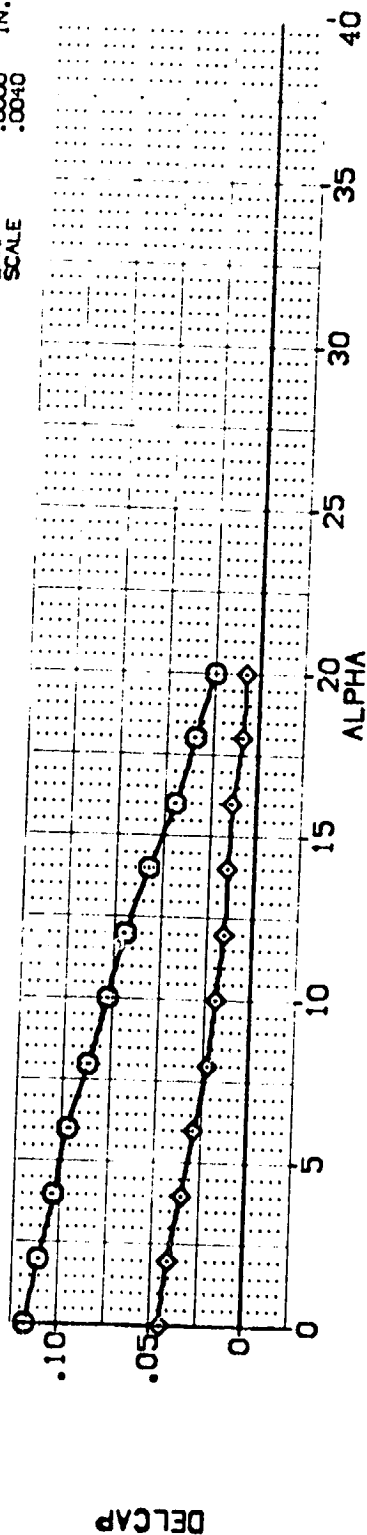
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A)MACH = .60

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION:
 (H22001) MSC 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)
 (H22117) DATA NOT AVAILABLE
 (H22002) MSC 581(0A49) DRB 3A-0 (BCFM) (VE)(VR)

DELEVR BOFLAP SPOBRK ALLRON
 -33.650 -11.700 25.550 -320
 -23.840 -11.700 23.550 -240
 -15.550 -11.700 25.550 -400

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



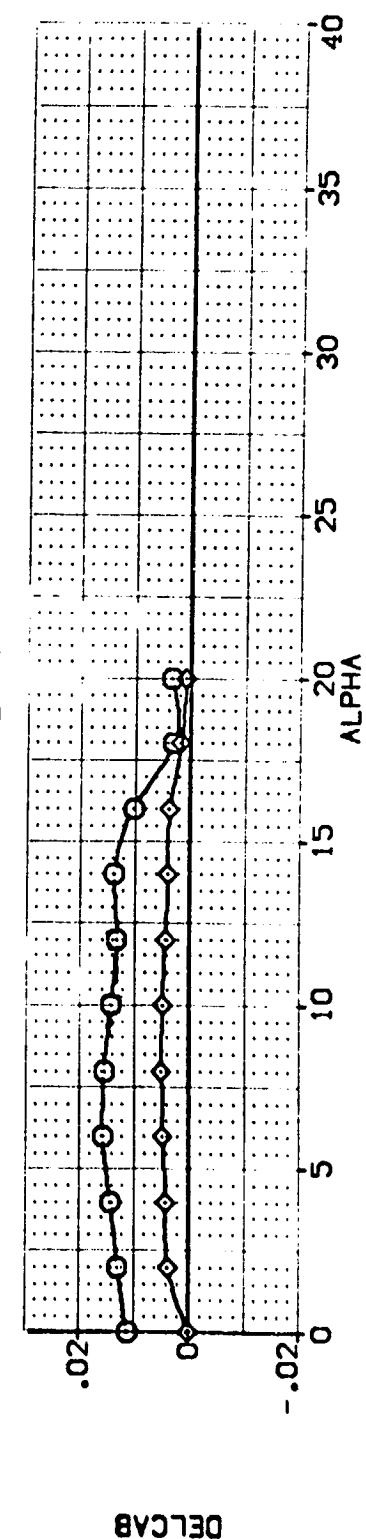
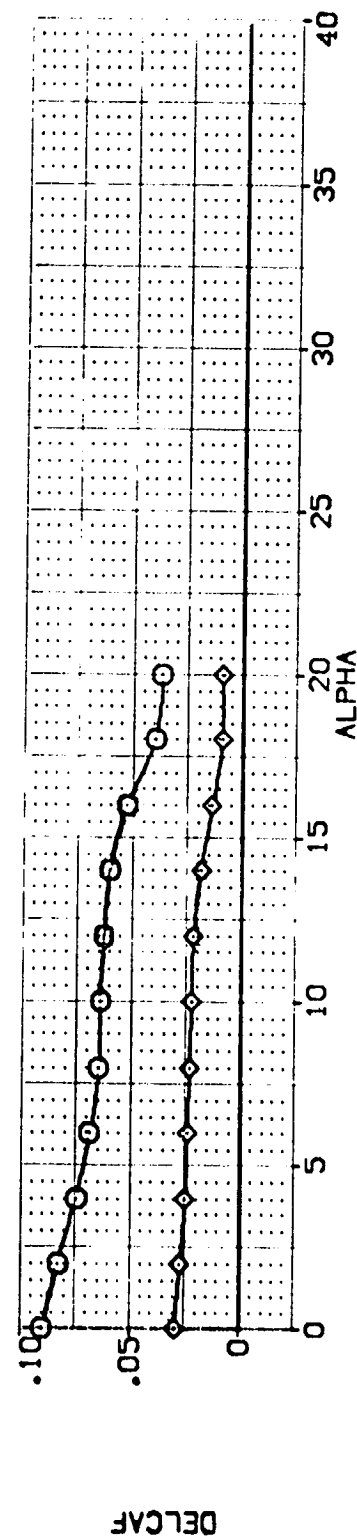
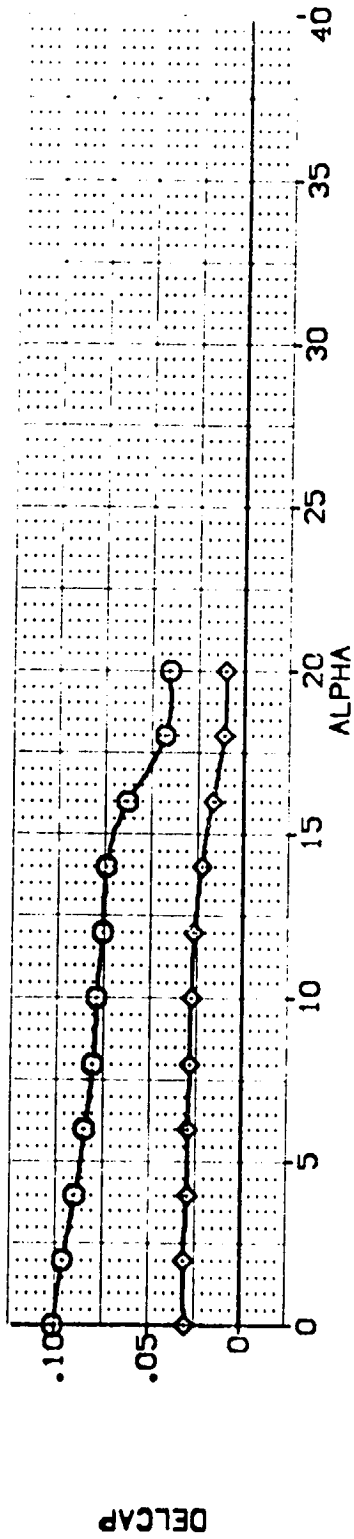
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)MACH = .89



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (-62001) MSC 501 (0A49) ORB 34-0 (BOFH) (VE)(VR)
 (-62117) DATA NOT AVAILABLE
 (-62002) MSC 501 (0A49) ORB 34-0 (BOFH) (VE)(VR)

DELEVR BOFLAP SPOBRK AILRON REFERENCE INFORMATION
 -30.650 -11.700 25.550 -0.320 SREF 2741.6000 SQ. FT
 -23.940 -11.700 25.550 -0.240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -0.400 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

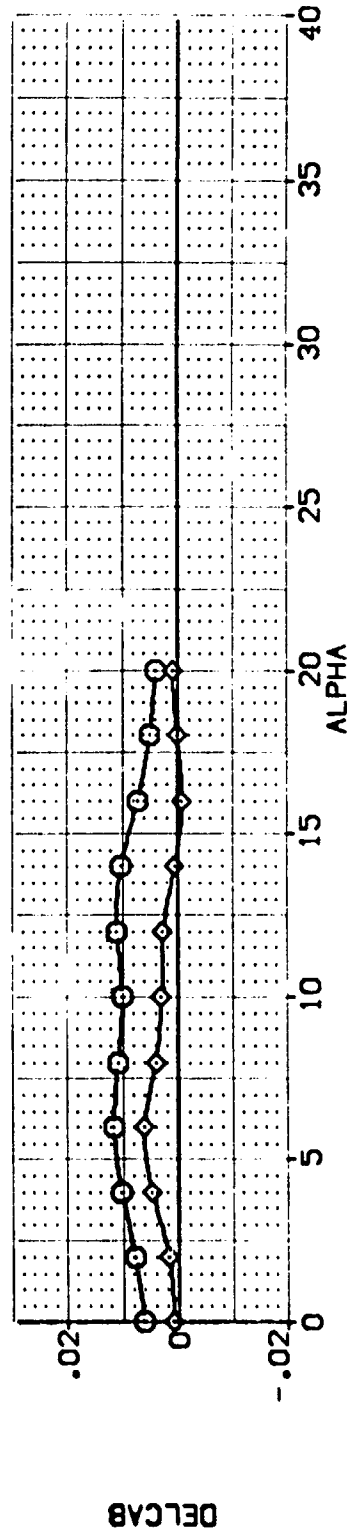
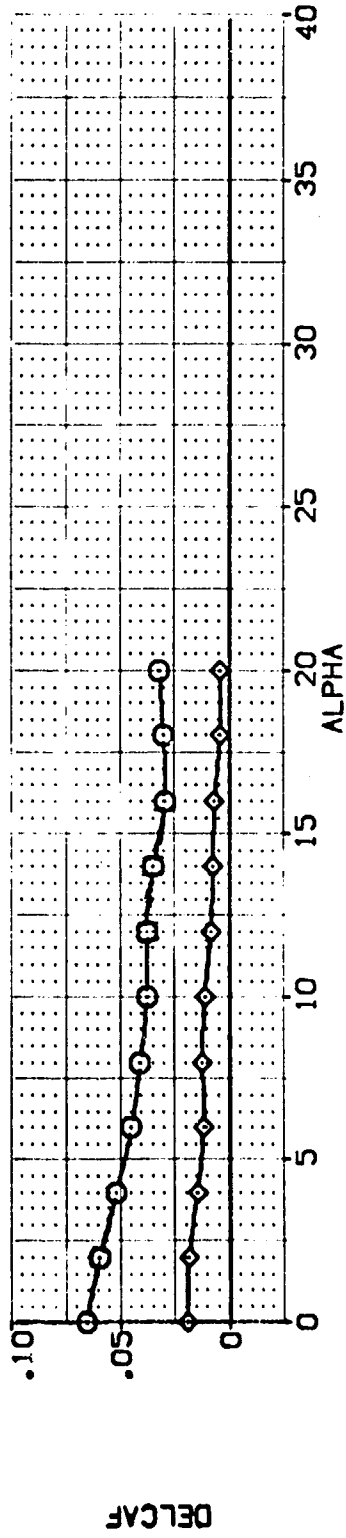
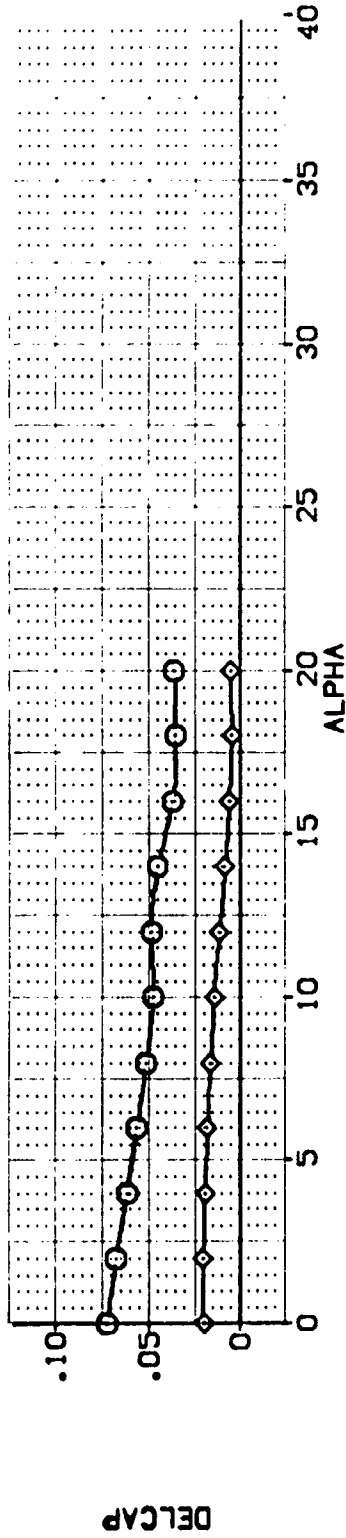


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (H92001) MSC 581(0A49) G8B 34-0 (BOPM) (VE)(VR)
 (H92117) DATA NOT AVAILABLE
 (H92002) MSC 581(0A49) G8B 34-0 (BOPM) (VE)(VR)

DELEVR BDFLAP SPOBRK AILRON REFERENCE INFORMATION
 -39.650 -11.700 25.550 -320 2741.8000 SQ. FT
 -23.840 -11.700 25.550 -240 481.6480 IN.
 -15.550 -11.700 25.550 -400 936.7000 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D)MACH = 1.46



DATA SET SYMBOL: (H22001) (H22117) (H22002)

CONFIGURATION DESCRIPTION: MSFC 581 (0A49) ORB 34-0 (BDFM) (VE)(VR) DATA NOT AVAILABLE MSFC 581 (0A49) ORB 34-0 (BDFM) (VE)(VR)

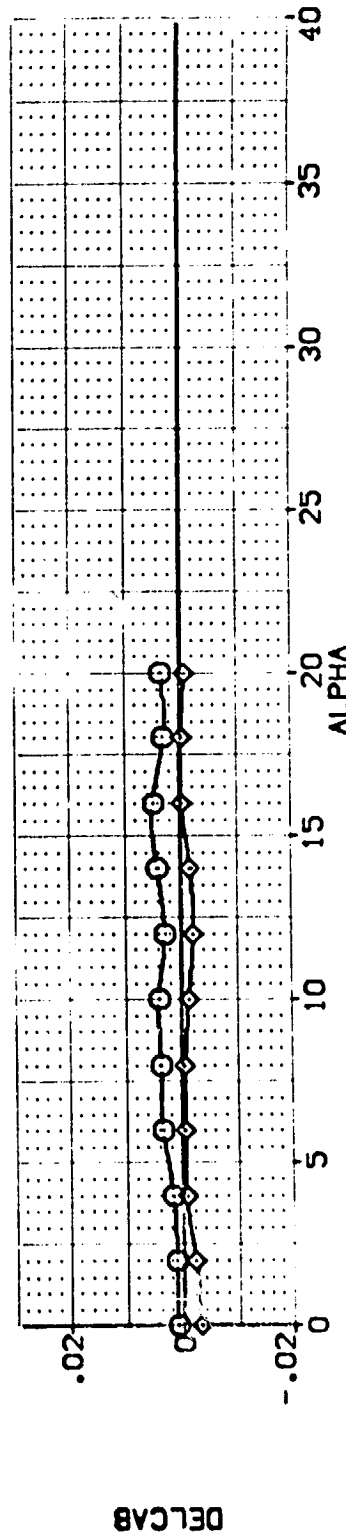
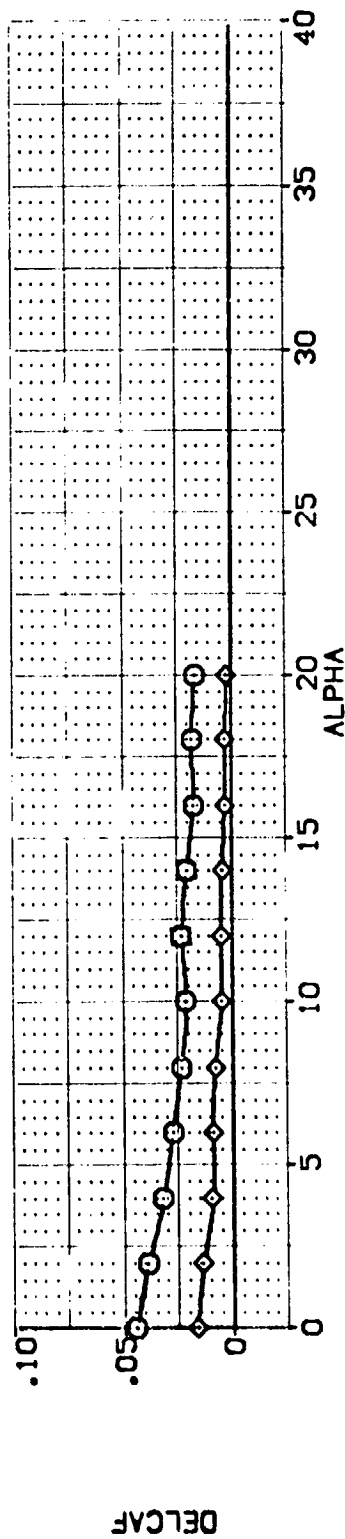
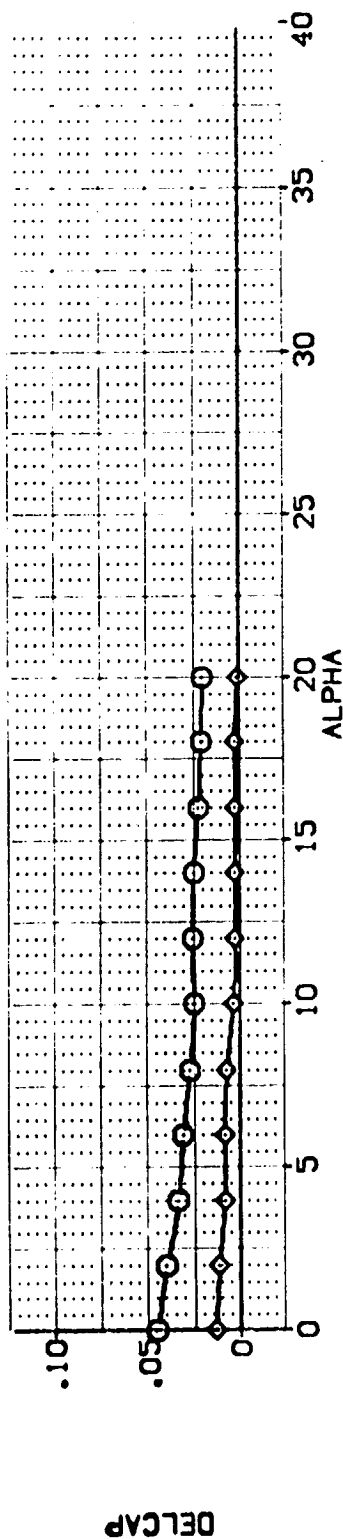
DELEVR: -33.650 -23.840 -15.550

BOFLAP: -11.700 -11.700 -11.700

SPOBRK: 25.550 25.550 25.550

AILRON: -.320 -.240 -.400

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 936.7000 IN. XMRP 1081.3500 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040



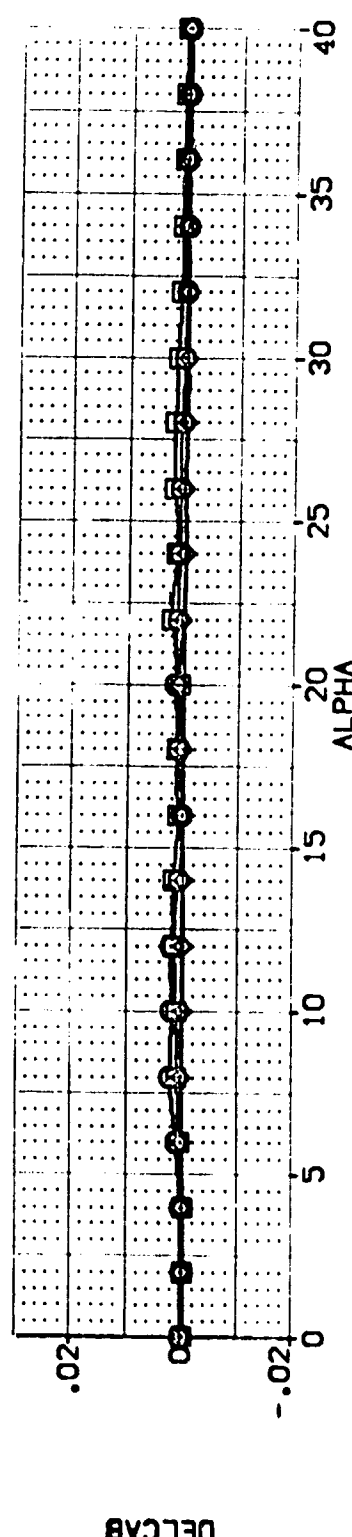
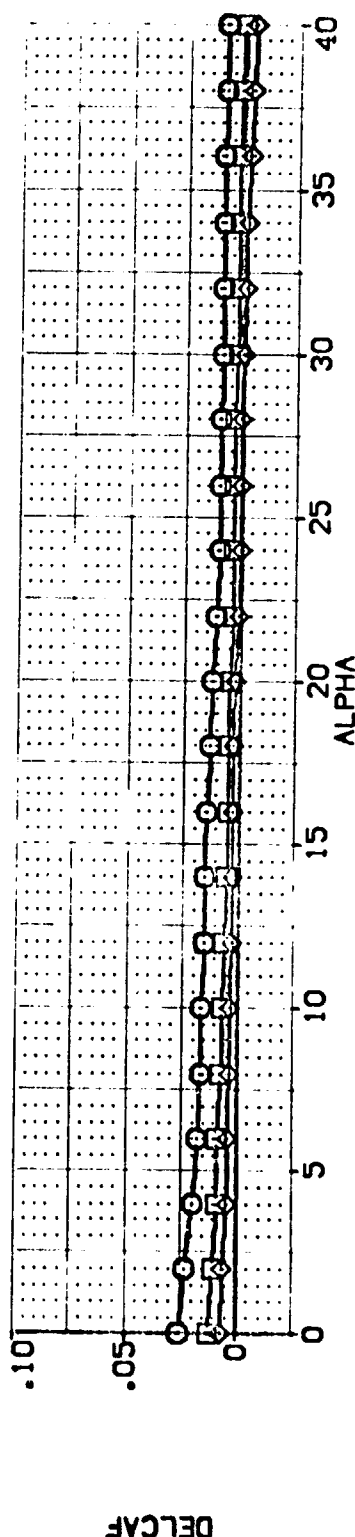
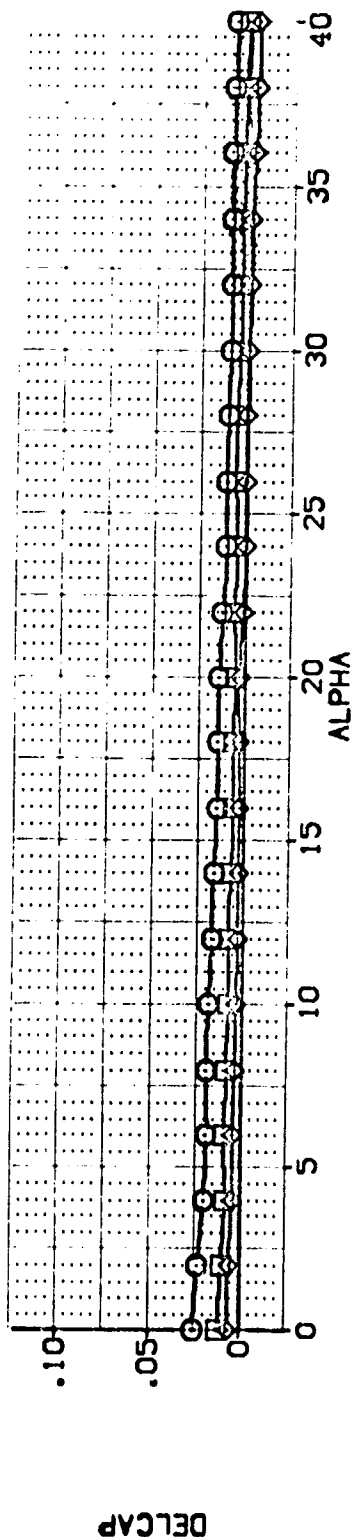
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)MACH = 1.95

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [H22001] MSFC 581(0A49) 073 3A-0 (BCFM) (VEI)VR
 [H22117] MSFC 581(0A49) 073 3A-0 (BCFM) (VEI)VR
 [H22002] MSFC 581(0A49) 073 3A-0 (BCFM) (VEI)VR

DELEVR BDFLAP SPDBRK AILRON
 -33.650 -11.700 25.550 -1.320
 -22.840 -11.700 23.550 -1.240
 -15.550 -11.700 23.550 -1.400

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(F)MACH = 2.99

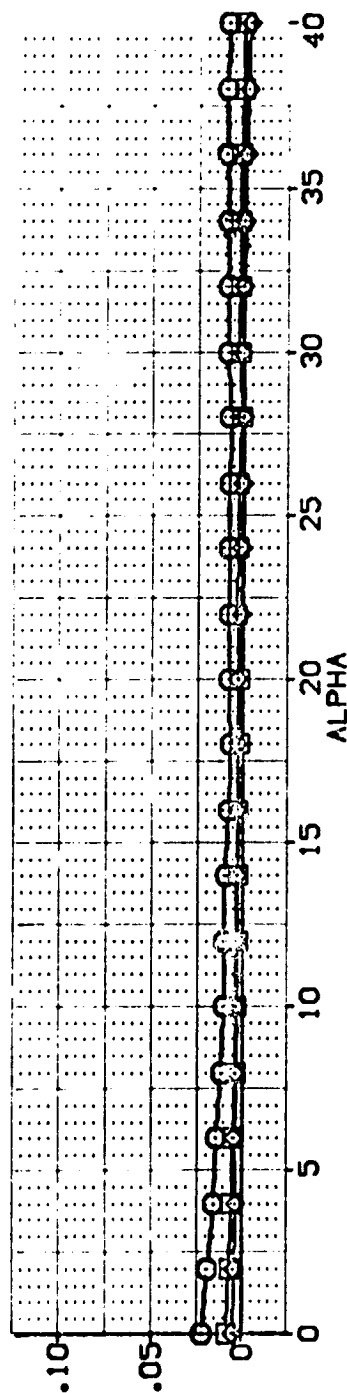


DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (H2001) MSFC 581(0419) 079 34-0 (BDM) (VE)(VR)
 (H2117) MSFC 581(0419) 079 34-0 (BDM) (VE)(VR)
 (H2002) MSFC 581(0419) 079 34-0 (BDM) (VE)(VR)

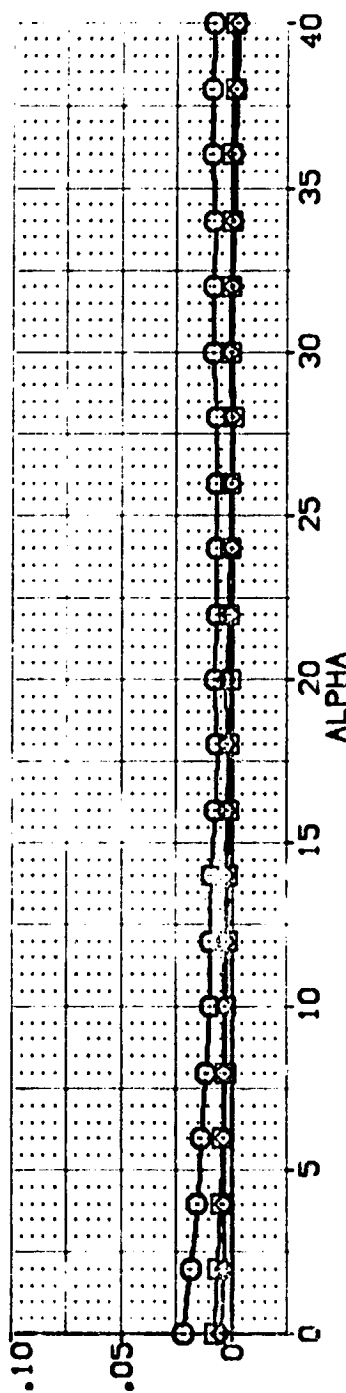
DELEVR BOFLAP SPOBRK AILRON
 -33.650 -11.700 25.550
 -23.840 -11.700 25.550
 -15.550 -11.700 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

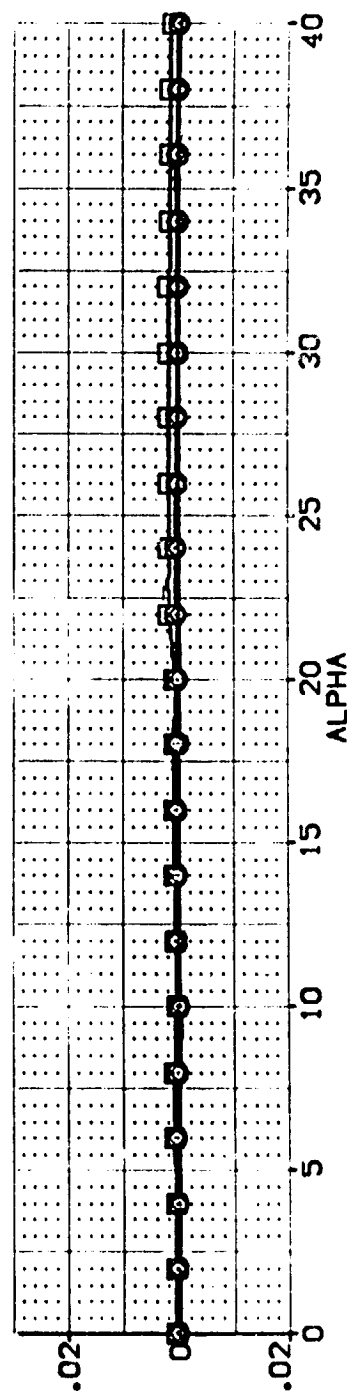
DELCP



DELCF



DELCB



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(G)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

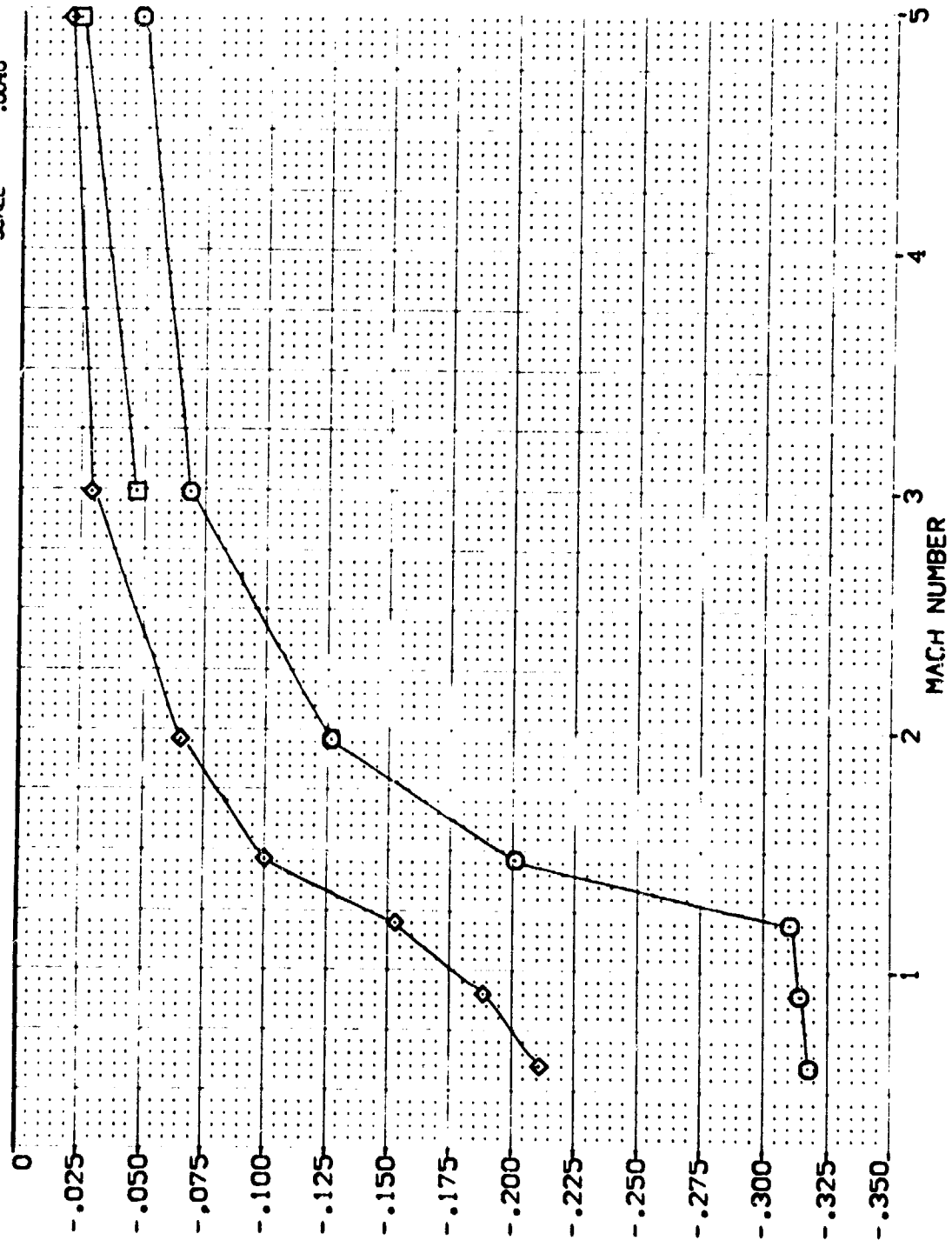
592001)  MSFC 581(DA49) DBB 34-0 (BDTH) (WE)(VR)
 591117)  MSFC 581(DA49) DBB 34-0 (BDTH) (VE)(VR)
 592002)  MSFC 581(DA49) DBB 34-0 (BDTH) (WE)(VR)

DELEVR BDCLAP SPOBRK AILRON

-33.650 -11.700 25.550
 -23.640 -11.700 25.550
 -15.550 -11.700 25.550

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(AJALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

[532001] MSFC 581(2A49) DB 34-0 (BCFM) (VE)(VR)

[532002] MSFC 581(2A49) DB 34-0 (BCFM) (VE)(VR)

[532002] MSFC 581(2A49) DB 34-0 (BCFM) (VE)(VR)

DELEVR BDFLAP SPOBRK AILRON

-29.650 -11.700 25.550 -0.320

-29.640 -11.700 25.550 -0.240

-15.350 -11.700 25.550 -0.400

REFERENCE INFORMATION

SREF 2011.8000 SQ. FT.

LREF 481.6480 IN.

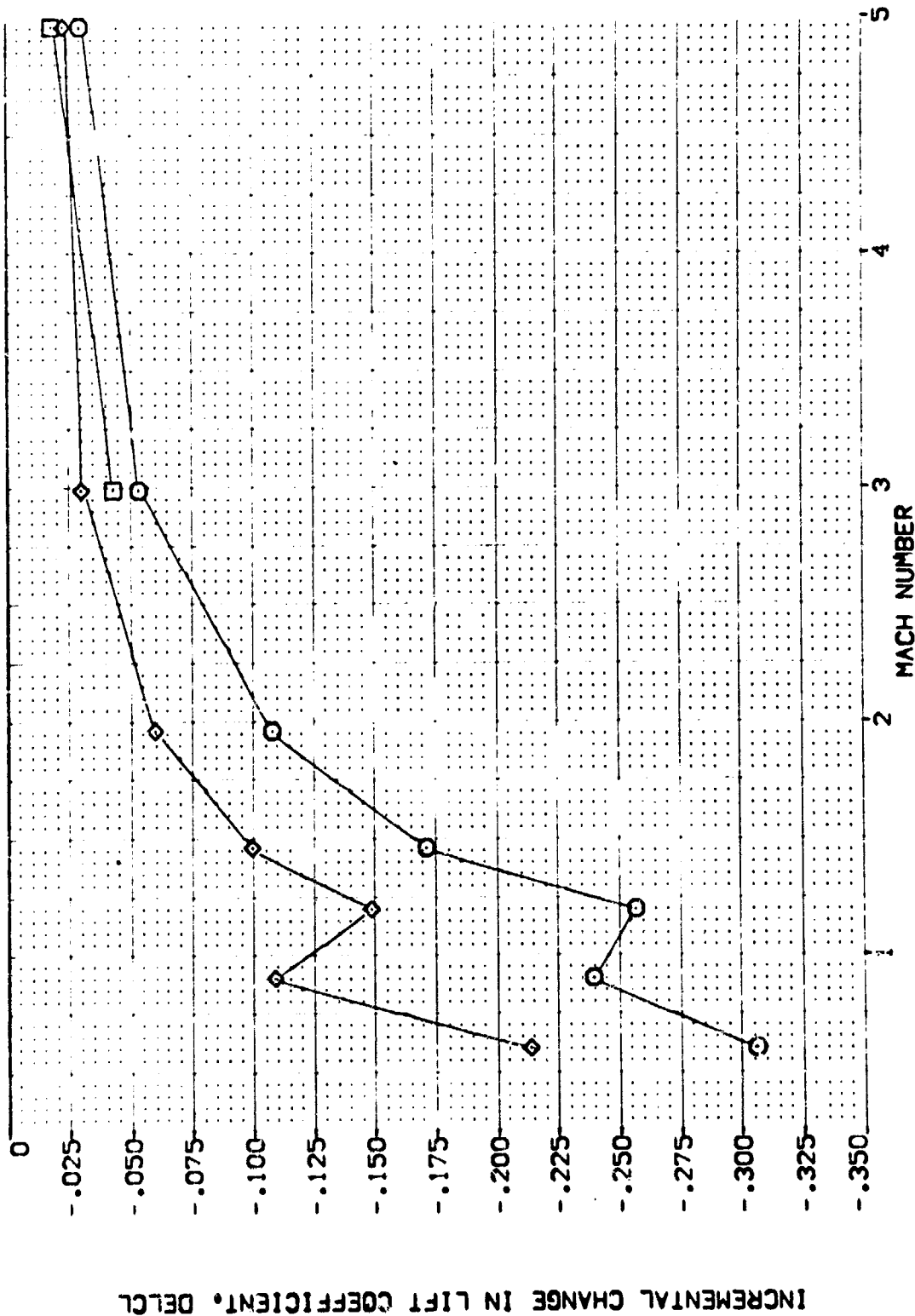
BREF 936.7000 IN.

XMRP 1081.3500 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0040

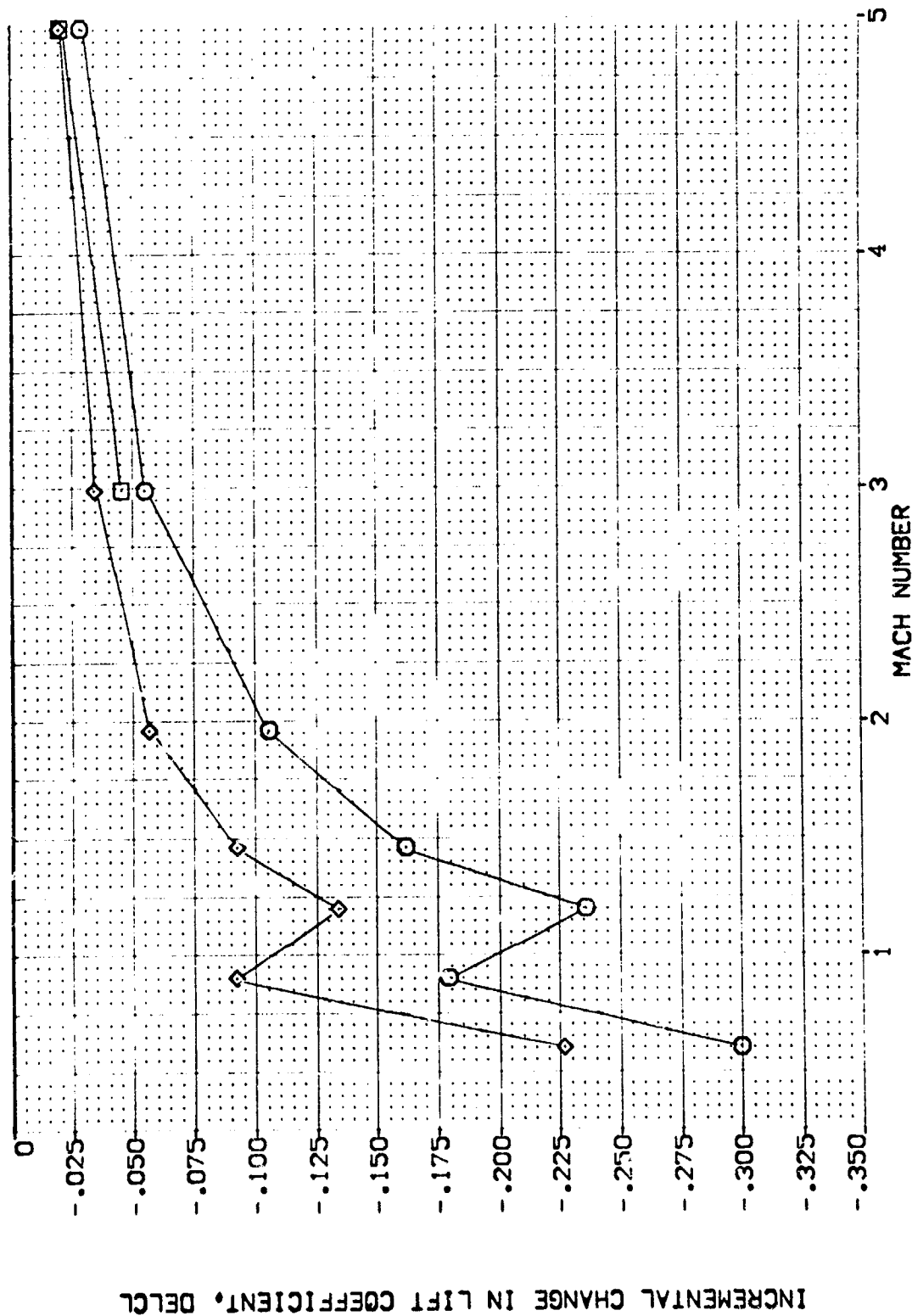


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(CJ)ALPHA = 10.00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPL3ARK	AIRLON	REFERENCE INFORMATION			
(322002)	MSFC 581(0A49) 058 34-0 (BOFM) (VE) (VR)	-33.650	-11.700	25.550	-320	SREF	2741.8000	50. FT	
(59A117)	MSFC 581(0A49) 058 34-0 (BOFM) (VE) (VR)	-23.840	-11.700	25.550	-240	LREF	481.6480	IN:	
(592002)	MSFC 581(0A49) 058 34-0 (BOFM) (VE) (VR)	-15.550	-11.700	25.550	-400	BREF	536.7000	IN:	
						XMRP	1081.3900	IN:	
						YMRP	.0000	IN:	
						ZMRP	.0000	IN:	
						SCALE	.0040	IN:	



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

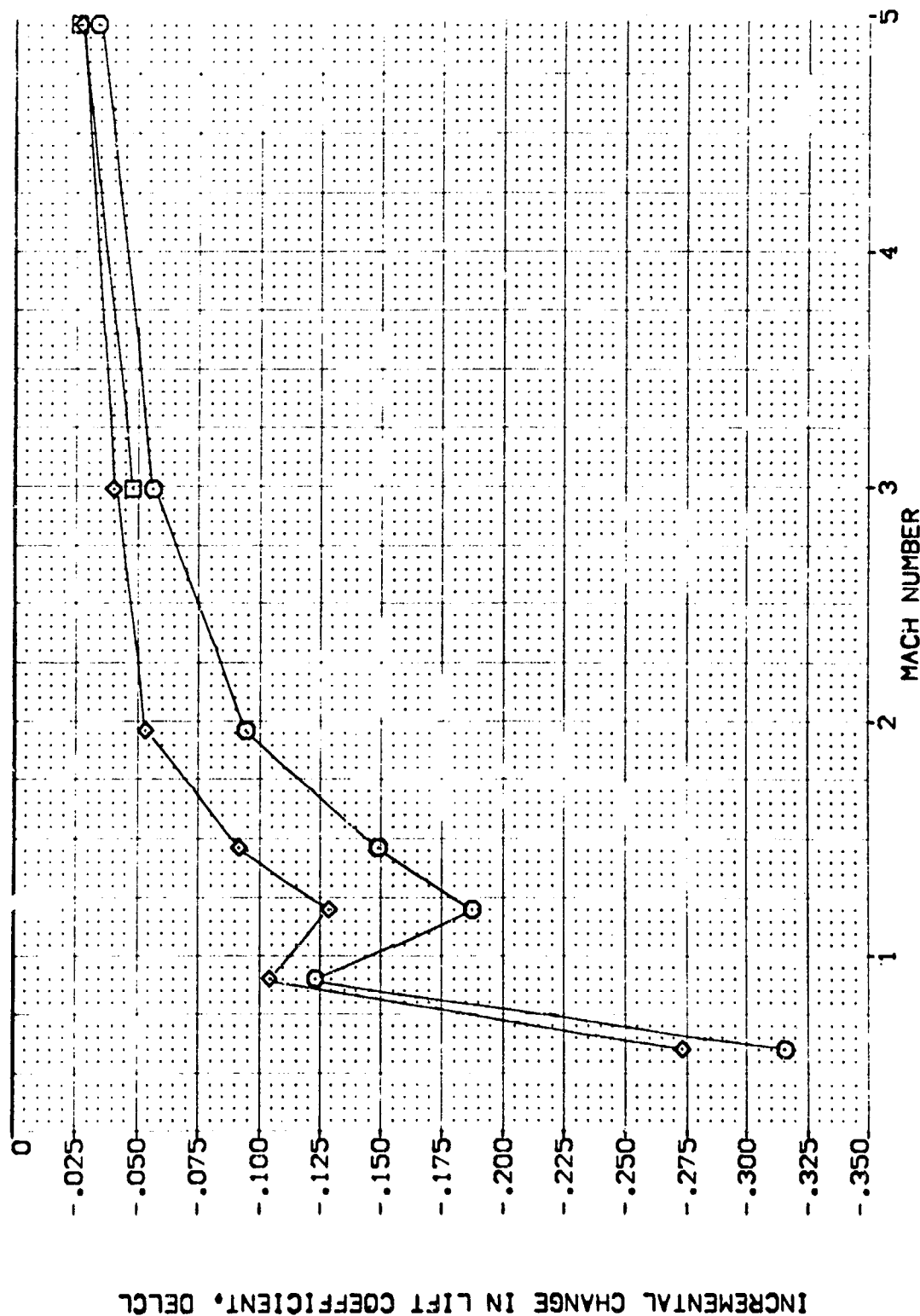
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(CO)ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (592001) MSC 591(DA49) C33 34-0 (BCFM) (VE)(VR)
 (592002) MSC 591(DA49) C33 34-0 (BCFM) (VE)(VR)
 (592003) MSC 591(DA49) C33 34-0 (BCFM) (VE)(VR)

DELEVR BOFLAP SPOBRK AILRON
 -33.650 -11.700 25.550 -300
 -23.840 -11.700 25.550 -240
 -15.550 -11.700 25.550 -400

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT.
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)ALPHA = 20.00

DATA SET SYMBOL

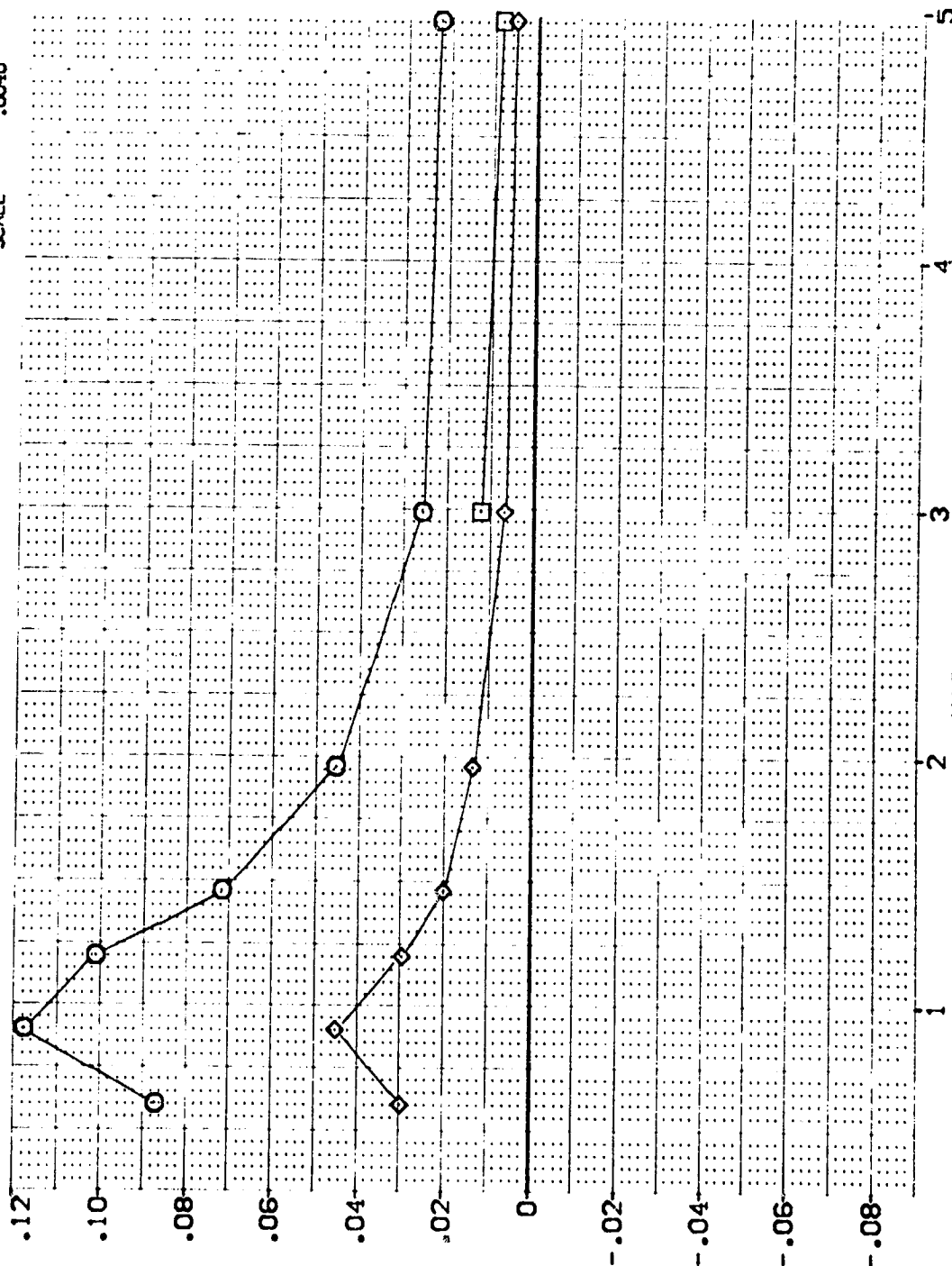
(592001)
(592002)
(592003)

CONFIGURATION DESCRIPTION

MSFC 561(049) 078 3A-0 (BOFM) (VEI)(VR)
MSFC 581(049) 078 3A-0 (BOFM) (VEI)(VR)
MSFC 581(049) 078 3A-0 (BOFM) (VEI)(VR)

DELEV R BOFLAP SPOBRK AILRON
-39.650 -11.700 25.550 -1.320
-23.840 -11.700 25.550 -1.240
-15.550 -11.700 25.550 -1.400

REFERENCE INFORMATION
SREF 2741.8000 SQ: FT
LREF 481.6480 IN:
BREF 936.7000 IN:
XTRP 1081.3950 IN:
YTRP .0000 IN:
ZTRP .0000 IN:
SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

MACH NUMBER

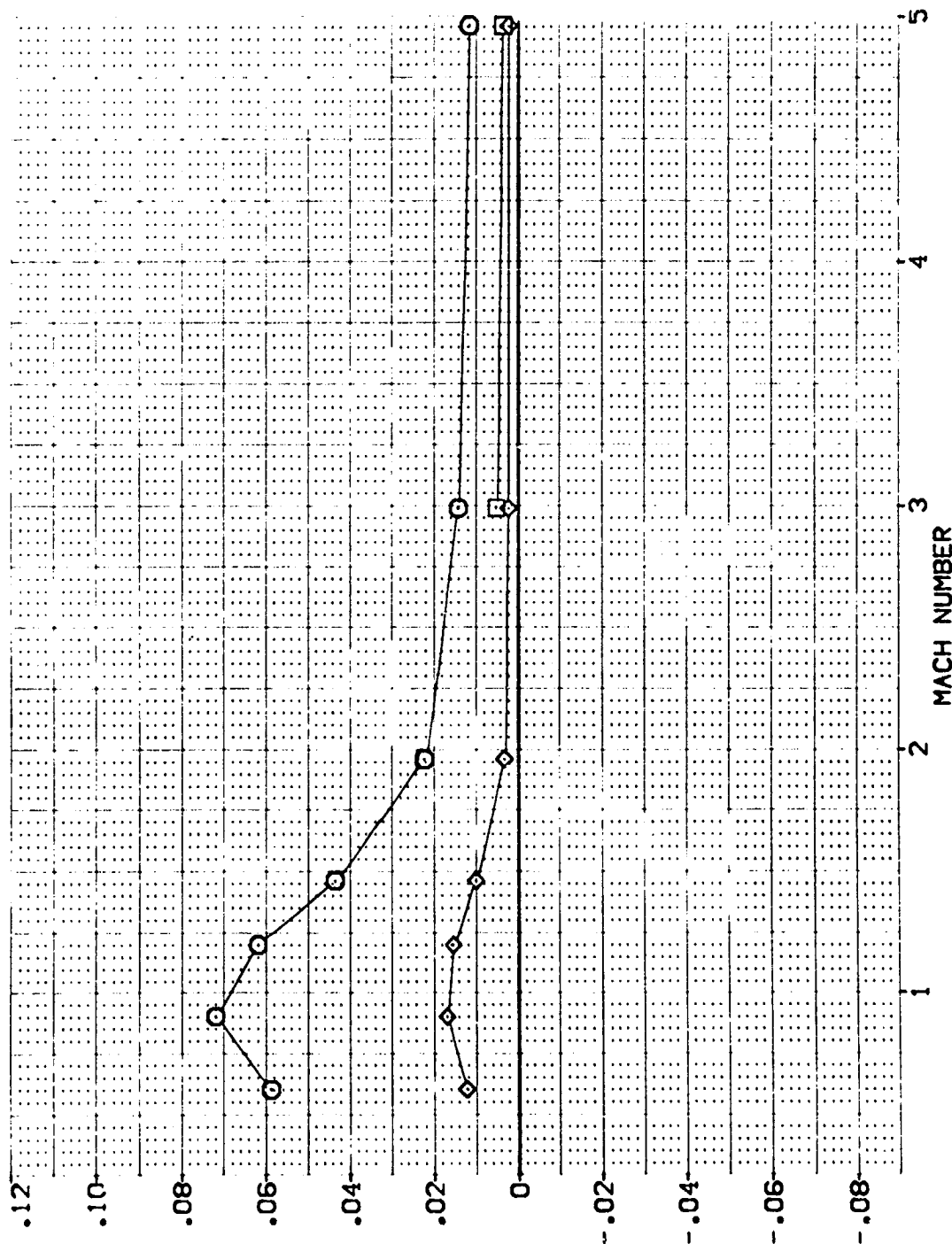
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A) ALPHA = .0C

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (592001) MSFC 581(0A19) 038 34-0 (BOTH) (VE)(VR)
 (591117) MSFC 531(0A19) 038 34-0 (BOTH) (VE)(VR)
 (592002) MSFC 581(0A19) 038 34-0 (BOTH) (VE)(VR)

DELEVR BOFLAP SPOBRK AILRON
 -33.650 -11.700 25.550
 -23.840 -11.700 25.550
 -15.550 -11.700 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3600 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

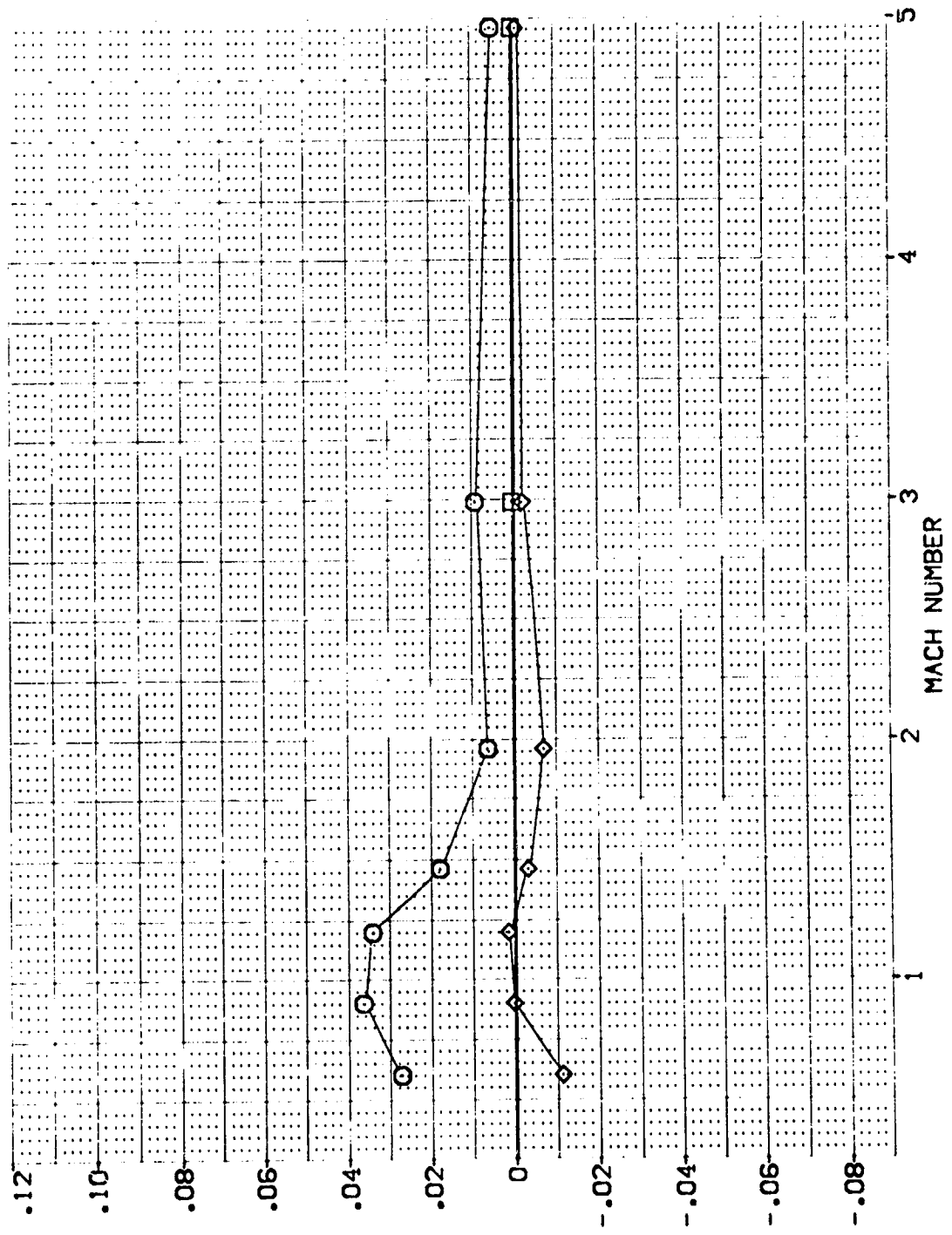


INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 5.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPOBRK	AIRLON	REFERENCE INFORMATION
{592001}	MSFC 581(0A49) ORB 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SC. FT
{592002}	MSFC 581(0A49) ORB 34-0 (BCFM) (VE)(VR)	-23.840	-11.700	25.550	-240	LREF 481.6480 IN.
	MSFC 581(0A49) ORB 34-0 (BCFM) (VE)(VR)	-13.550	-11.700	25.550	-400	BREF 936.7000 IN.
						XMRP 1081.3800 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C) ALPHA = 10.00

DATA SET SYMBOL

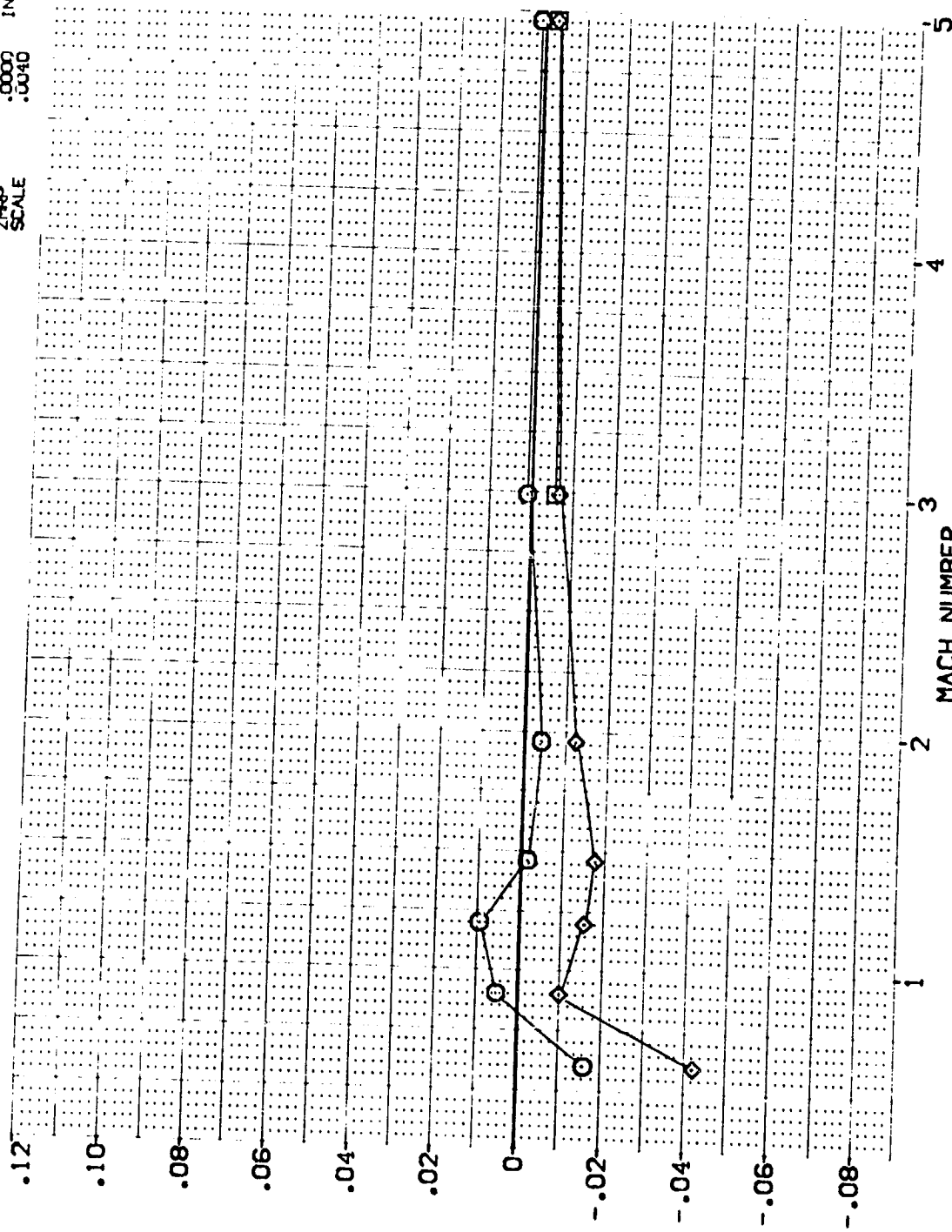
CONFIGURATION DESCRIPTION

[S92001]
[S9A117]
[S92002]

MSFC 581(DA49) DB 3A-0 (BCFM) (VE)(VR)
MSFC 591(DA49) DB 3A-0 (BCFM) (VE)(VR)
MSFC 581(DA49) DB 3A-0 (BCFM) (VE)(VR)

DELEVR 80FLAP 80FLAP SPDRBK AILRON
-33.650 -11.700 25.550 -0.320
-23.840 -11.700 25.550 -0.240
-15.550 -11.700 25.550 -0.400

REFERENCE INFORMATION
SREF 2741.8000 SQ: FT
LREF 481.6480 IN:
BREF 936.7000 IN:
XMRP 1081.3500 IN:
YMRP .0000 IN:
ZMRP .0000 IN:
SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCO

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

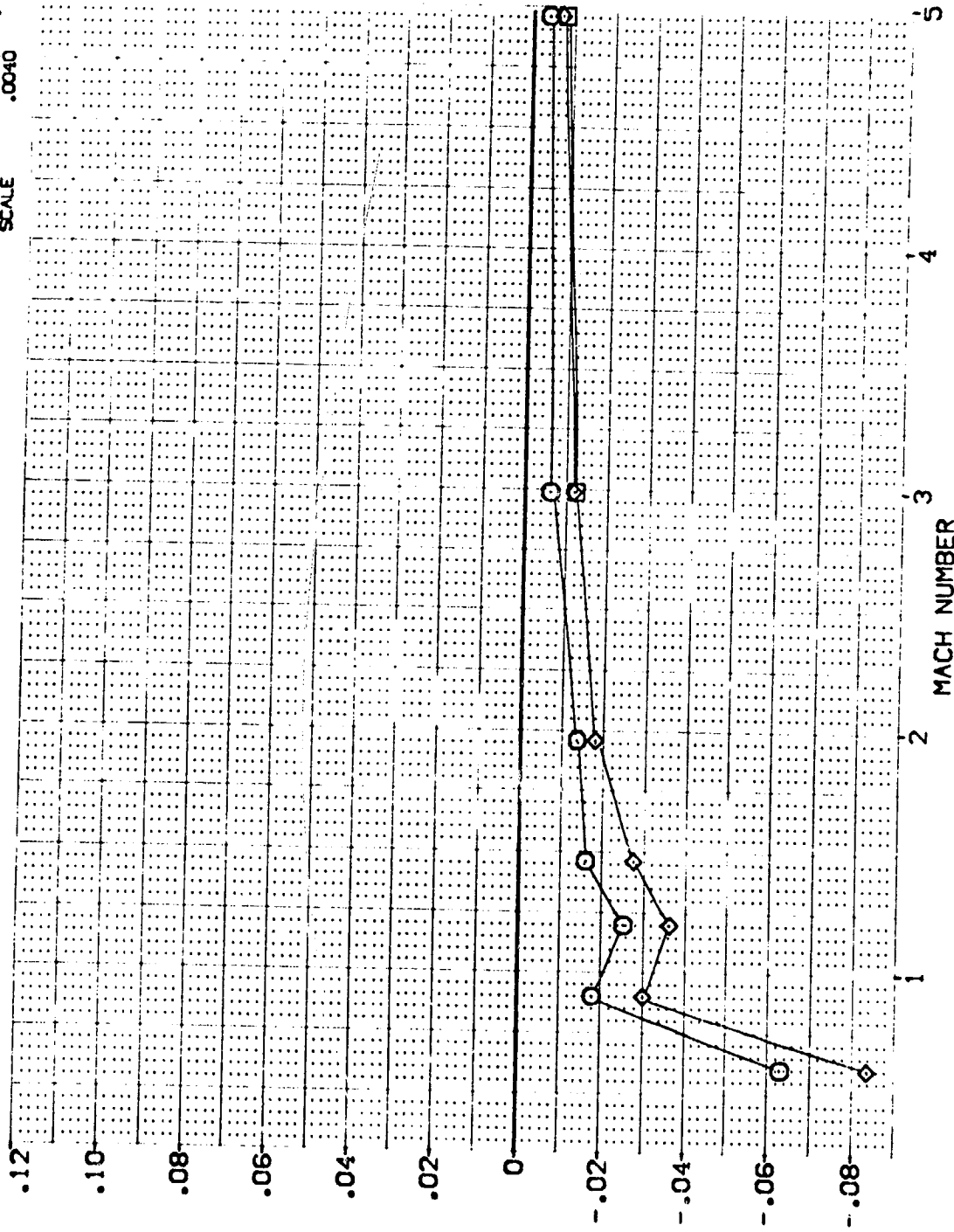
(D) ALPHA = 15.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {592001} MSFC 591(CA19) ORB 34-0 (BCFM) (VE)(VR)
 {59A117} MSFC 591(CA19) ORB 34-0 (BCFM)(VE)(VR)
 {592002} MSFC 591(CA19) ORB 34-0 (BCFM) (VE)(VR)

DELEVR BOFLAP SPOBRK AILRON
 -23.650 -11.700 25.550 -1.320
 -23.640 -11.700 25.550 -1.240
 -15.550 -11.700 25.550 -1.400

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCO

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(EJALPHA = 20.00

DATA SET SYMBOL: 592001, 59117, 592002

CONFIGURATION DESCRIPTION: MSFC 501 (DA49) OF3 34-0 (BCFM) (VE)(VR), MSFC 501 (DA49) OF3 34-0 (BCFM) (VE)(VR), MSFC 501 (DA49) OF3 34-0 (BCFM) (VE)(VR)

DELEVR: -33.650, -23.840, -15.550

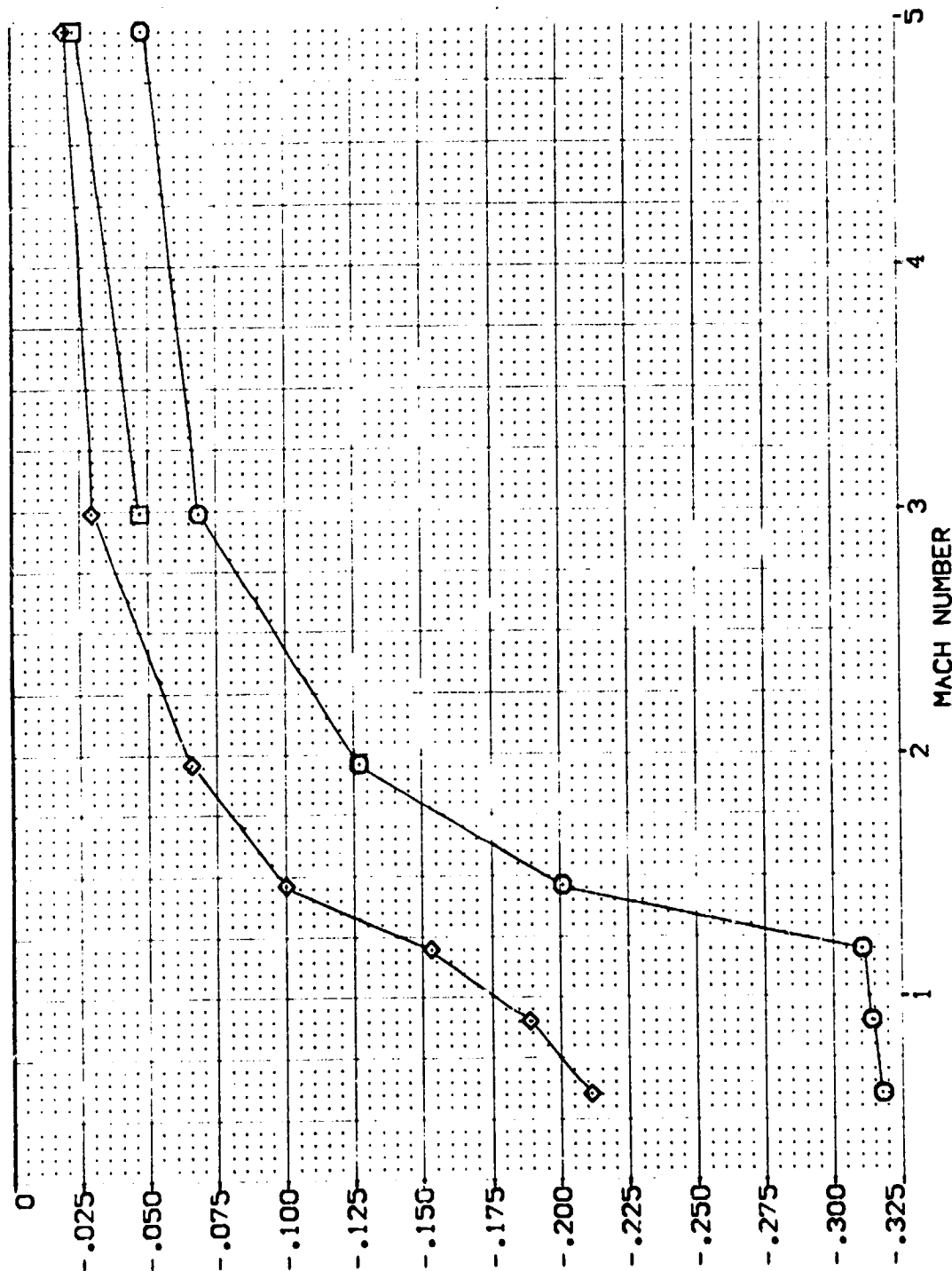
BOFLAP: -11.700, -11.700, -11.700

SPOBRK: 25.550, 25.550, 25.550

AILRON: -.320, -.240, -.400

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT, LREF 481.6480 IN., BREF 936.7000 IN., XMRP 1081.3900 IN., YMRP .0000 IN., ZMRP .0000 IN., SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

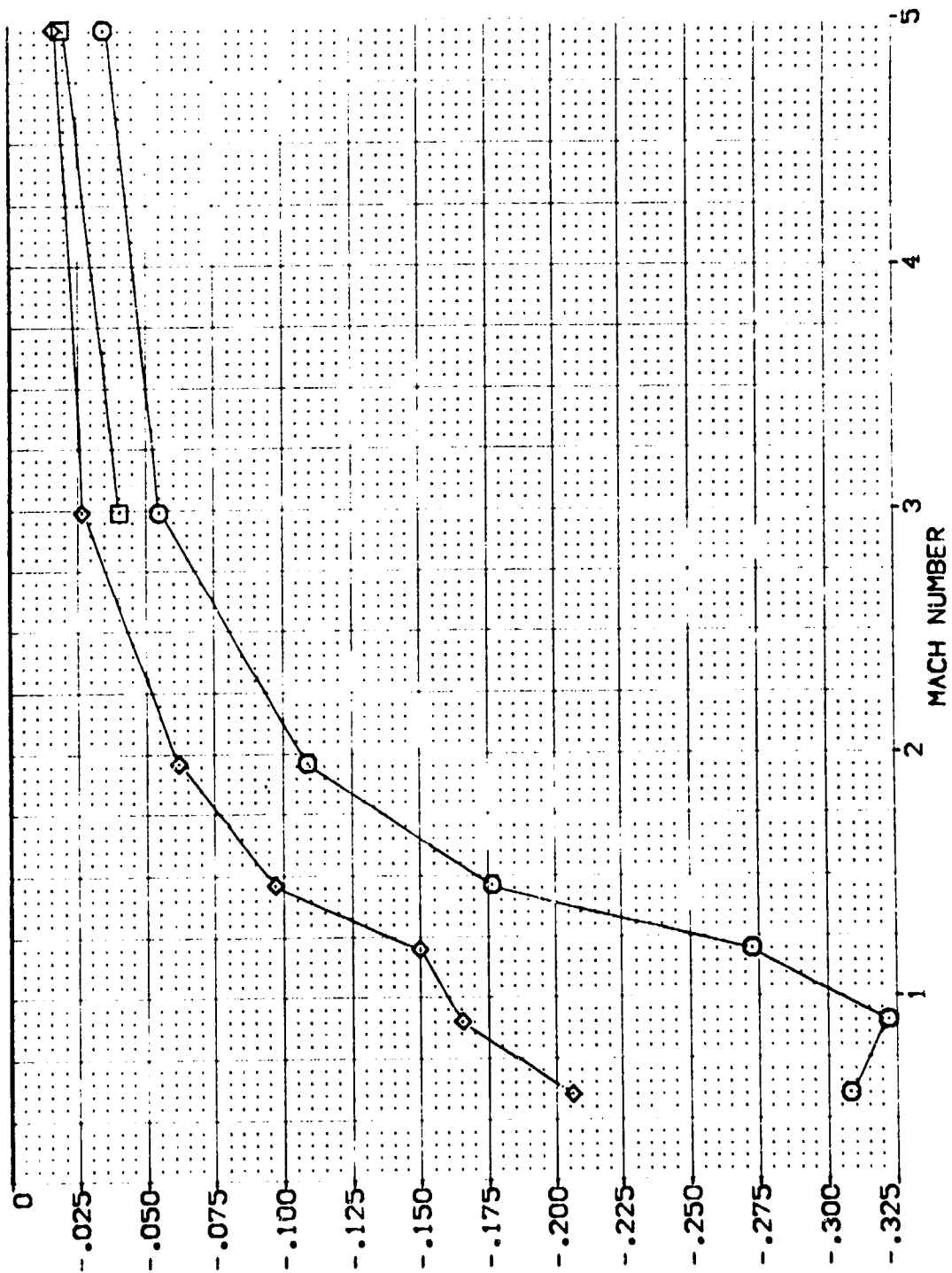


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A) ALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDCLAP	SPOBRK	AILRON	REFERENCE INFORMATION
{592001}	MSFC 581(DA49) ORB 34-0 (BDTH) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
{592002}	MSFC 581(DA49) ORB 34-0 (BDTH) (VE)(VR)	-23.840	-11.700	25.550	-240	LREF 481.6480 IN.
	MSFC 581(DA49) ORB 34-0 (BDTH) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
						XMRP 1081.3900 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040

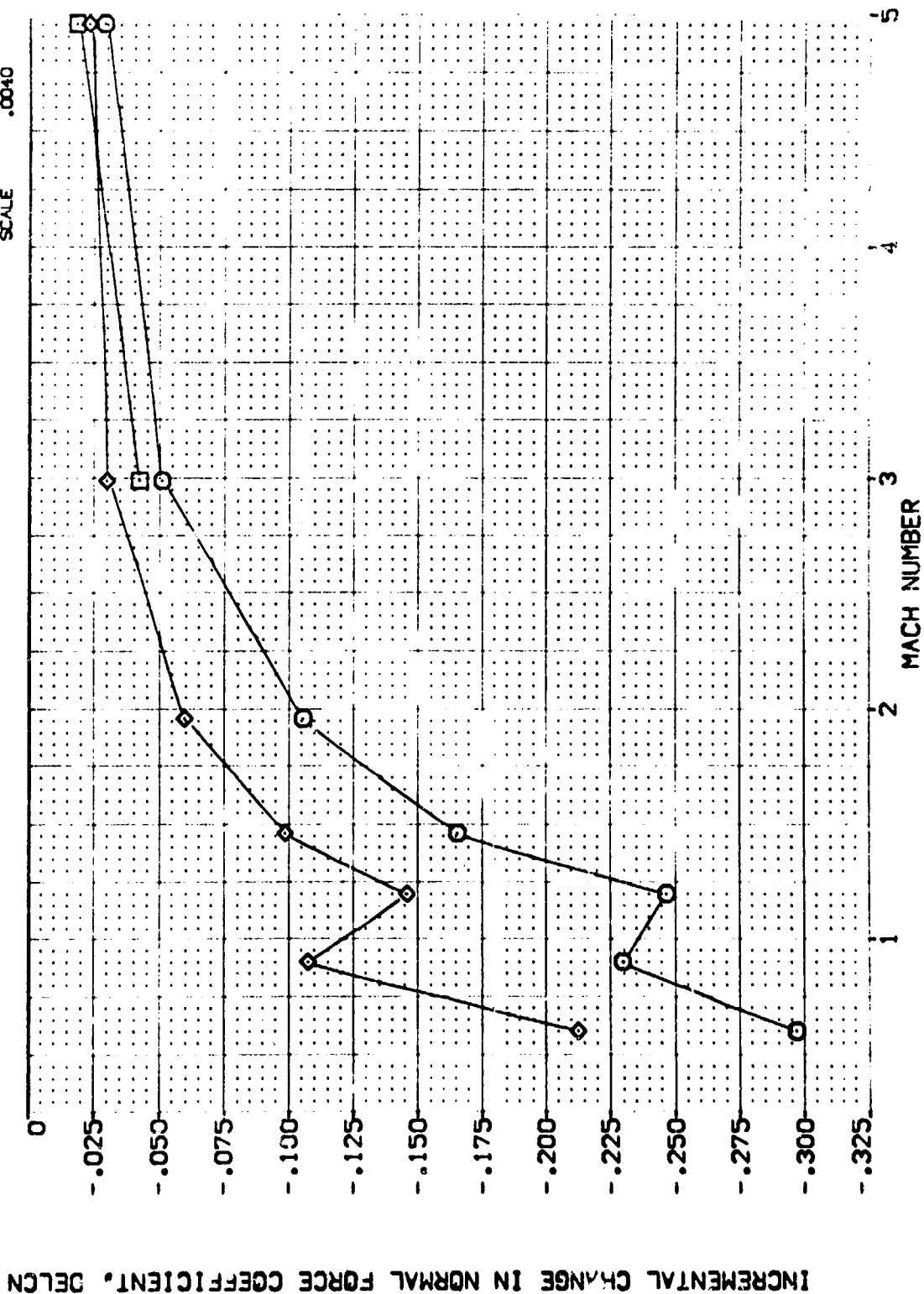
INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)ALPHA = 5.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOTM NO	SPOBRK	AILRON	REFERENCE INFORMATION
{S2001}	HSC 581(DA49) DBB 34-0 (BOTM)(WE)(VR)	-33.640	-11.700	25.550	-320	SPEC 2741 .8000 N.
{S2011}	HSC 581(DA49) DBB 34-0 (BOTM)(WE)(VR)	-23.840	-11.700	25.550	-240	SPEC 481.6480 N.
{S2002}	HSC 581(DA49) DBB 34-0 (BOTM)(WE)(VR)	-15.550	-11.700	25.550	-400	SPEC 936.7000 N. THRP 1081.6300 N. ZHRP .0000 N. SCALE .0040 N.



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

CCALPHA = 10.00

229

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(582001)	MSFC 581(0A49) 078 34-0 (30TH) (VE)(VR)
(58A117)	MSFC 581(0A49) 078 34-0 (BOTH)(VE)(VR)
(582002)	MSFC 581(0A49) 078 34-0 (BOTH) (VE)(VR)

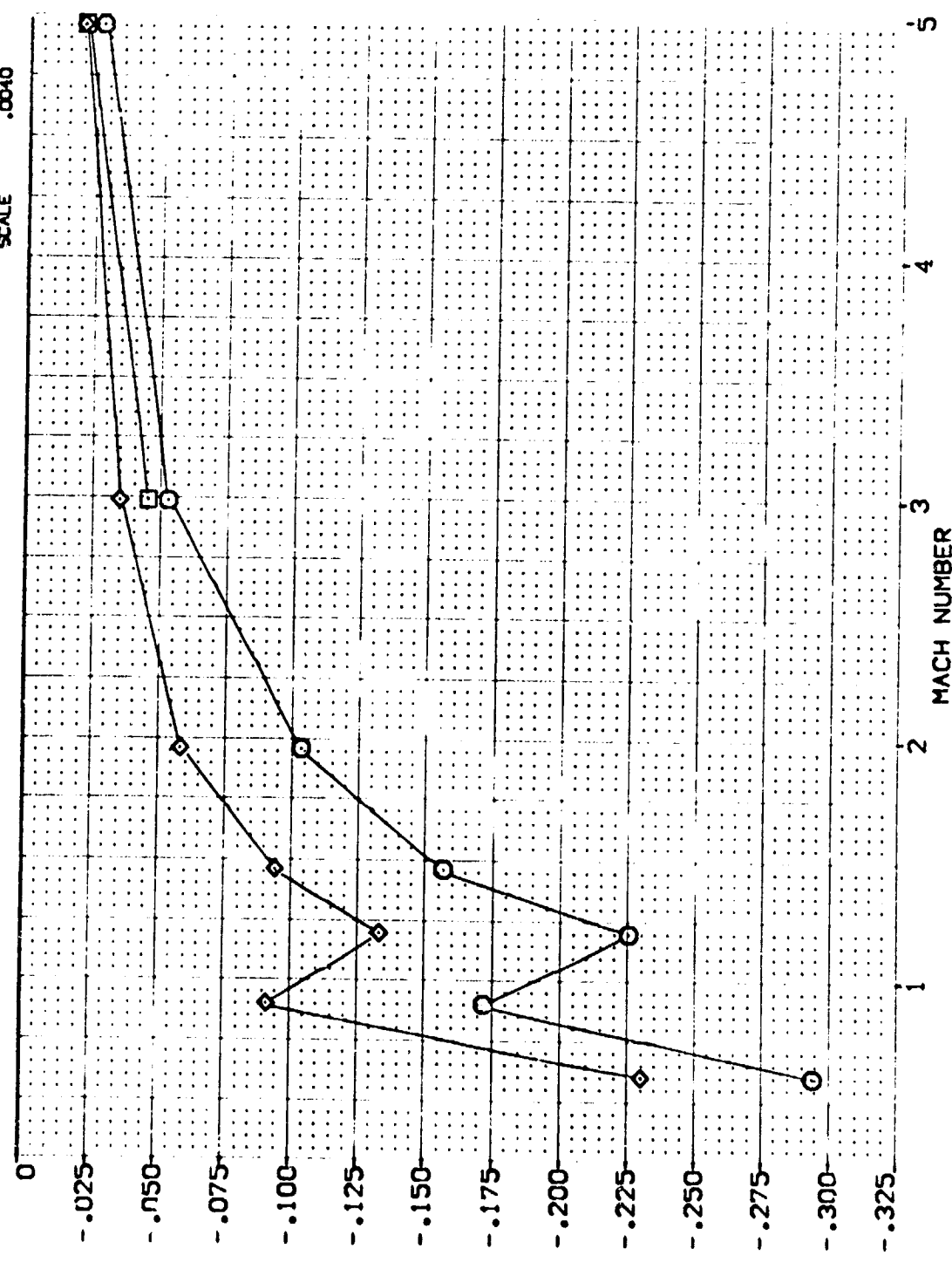
DELEVR BDFLAP SPDRBK AILRON

-33.650	-11.700	25.550	-320
-23.840	-11.700	25.550	-240
-15.550	-11.700	25.550	-400

REFERENCE INFORMATION

SREF	2741.8000	SQ. FT
LREF	431.6160	IN.
BREF	536.7000	IN.
XMRP	1081.3500	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0040	

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D)ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[592001]	MSFC 501(DA49) DB 34-0 (BOTH) (-E)(VR)
[50A117]	MSFC 501(DA49) DB 34-0 (BOTH) (VE)(VR)
[502002]	MSFC 501(DA49) DB 34-0 (BOTH) (VE)(VR)

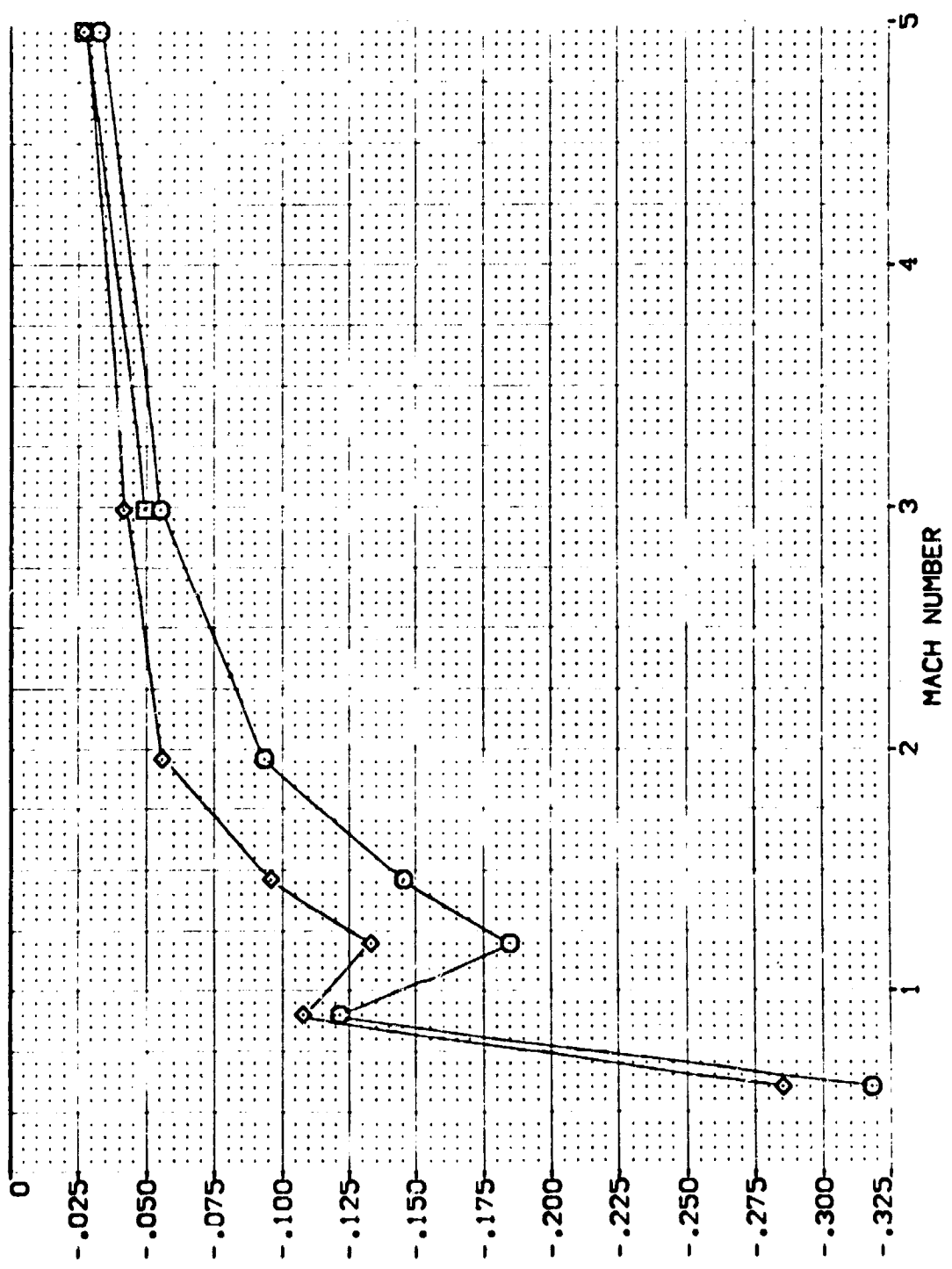
DELEV R BOTLAP SPDBRK AILRON

-33.650	-11.700	25.550	-320
-23.840	-11.700	25.550	-240
-15.550	-11.700	25.550	-400

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.5480	IN.
BREF	936.7000	IN.
XPRP	1081.3500	IN.
YPRP	.0000	IN.
ZPRP	.0000	IN.
SCALE	.0040	

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



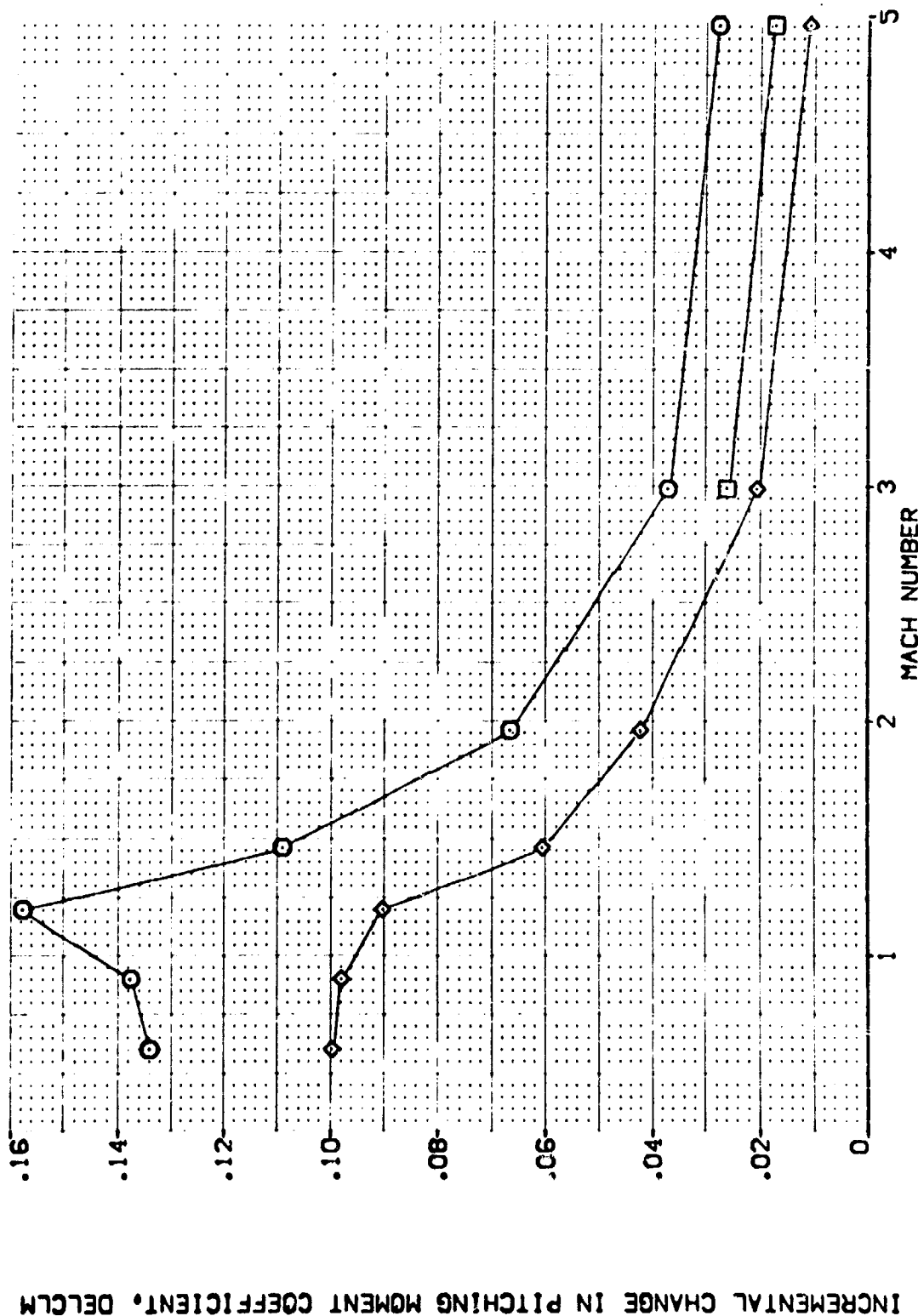
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E) ALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (592001) MSFC 501(CA49) DB 34-0 (BOTH) (VE)(VR)
 (591117) MSFC 501(CA49) DB 34-0 (BOTH) (VE)(VR)
 (592302) MSFC 501(CA49) DB 34-0 (BOTH) (VE)(VR)

DELEVR BOFLAP SPDRBK AILRON
 -30.650 -11.700 25.550 -320
 -23.840 -11.700 25.550 -240
 -15.550 -11.700 25.550 -400

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 935.7000 IN.
 XMRP 1081.3800 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

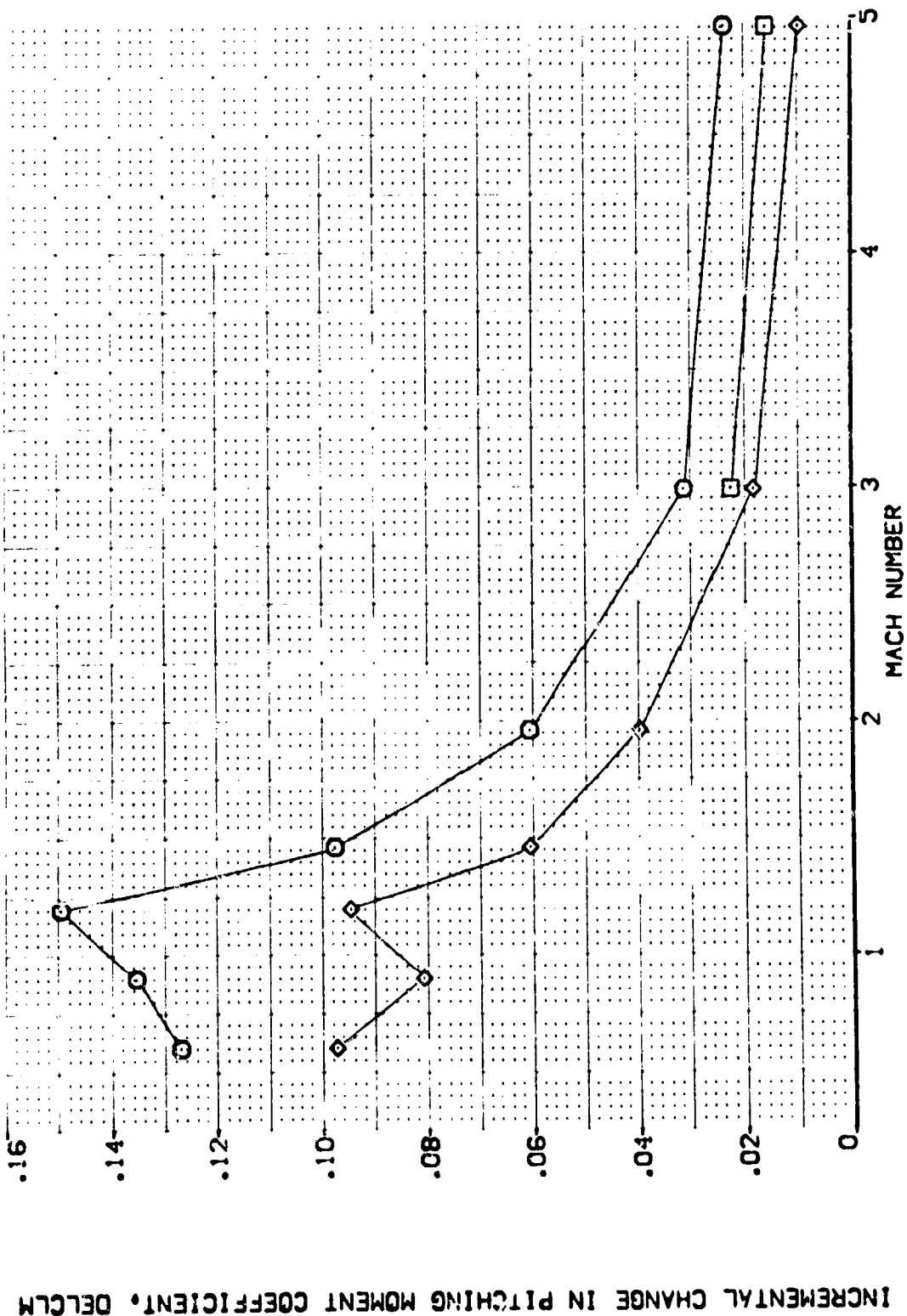


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(CA)ALPHA = .00



DATA SET SYMBOL: 592001, 592002
CONFIGURATION DESCRIPTION: MSFC 581(0A48) CRB 34-0 (BCFM) (VE)(VR) MSFC 581(0A48) CRB 34-0 (BCFM) (VE)(VR) MSFC 581(0A48) CRB 34-0 (BCFM) (VE)(VR)
DELEVR: -33.650, -23.840, -15.550
BDFLAP: -11.700, -11.700, -11.700
SP00BK: 25.550, 25.550, 25.550
AILRON: -.320, -.240, -.400
REFERENCE INFORMATION: SREF 2741.8000 SQ. FT, LREF 481.6480 IN., BREF 936.7000 IN., XMRP 1081.3900 IN., YMRP .0000 IN., ZMRP .0000 IN., SCALE .0040

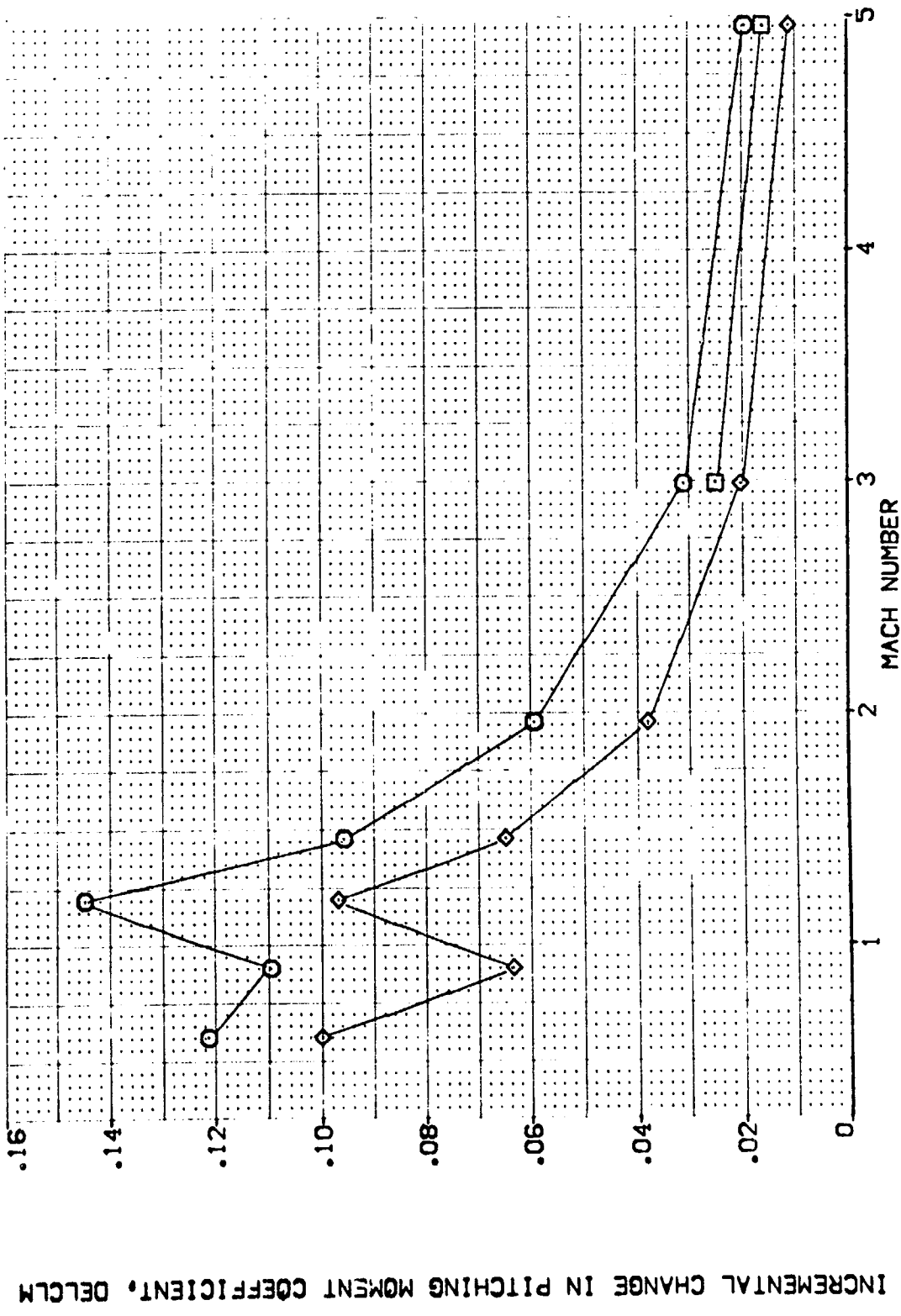


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)ALPHA = 5.00

C-4

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPOBRK	AIIIRON	REFERENCE INFORMATION
{592001}	MFC 581(DA49) C28 34-0 (BOFH) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
{591117}	MFC 531(DA49) C28 34-0 (BOFH) (VE)(VR)	-72.840	-11.700	25.550	-240	LREF 481.6480 IN.
{592002}	MFC 581(DA49) C28 34-0 (BOFH) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
						XPRP 1081.3900 IN.
						YPRP .300 IN.
						ZPRP .0000 IN.
						SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)ALPHA = 10.00

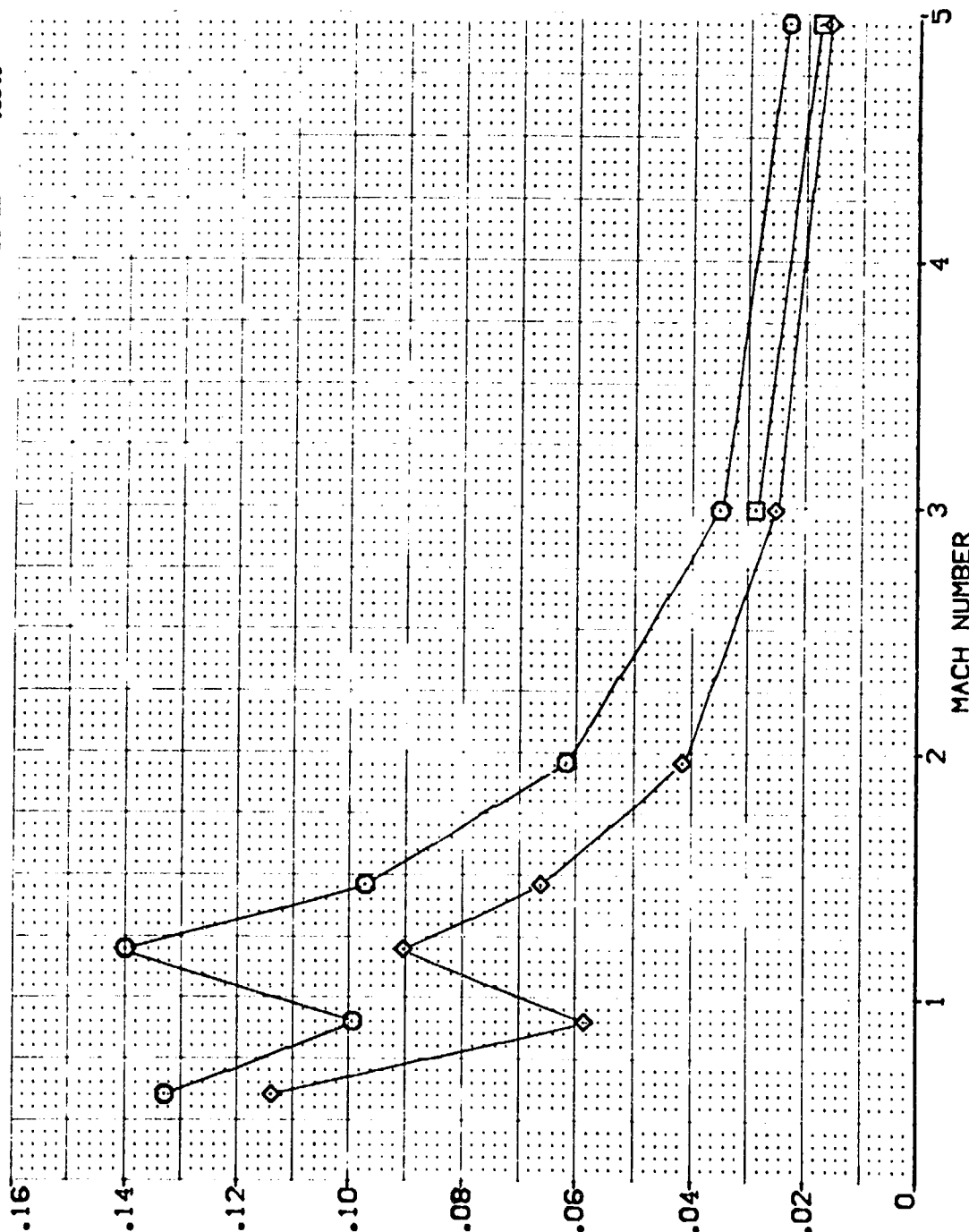


DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {592001} MSFC 581(DA49) DB 3A-0 (BCFM) (VE)(VR)
 {59A117} MSFC 581(DA49) DB 3A-0 (BCFM) (VE)(VR)
 {592002} MSFC 581(DA49) DB 3A-0 (BCFM) (VE)(VR)

DELEV BDFLAP SPDBRK AILRON
 -33.650 -11.700 25.550 -300
 -23.840 -11.700 23.550 -240
 -15.550 -11.700 23.550 -400

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D) ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(592001)	MSFC 581(OA19) 0P8 34-0 (BCFM) (VE)(VR)
(59A117)	MSFC 581(OA19) 0P8 34-0 (BCFM) (VE)(VR)
(592002)	MSFC 581(OA19) 0P8 34-0 (BCFM) (VE)(VR)

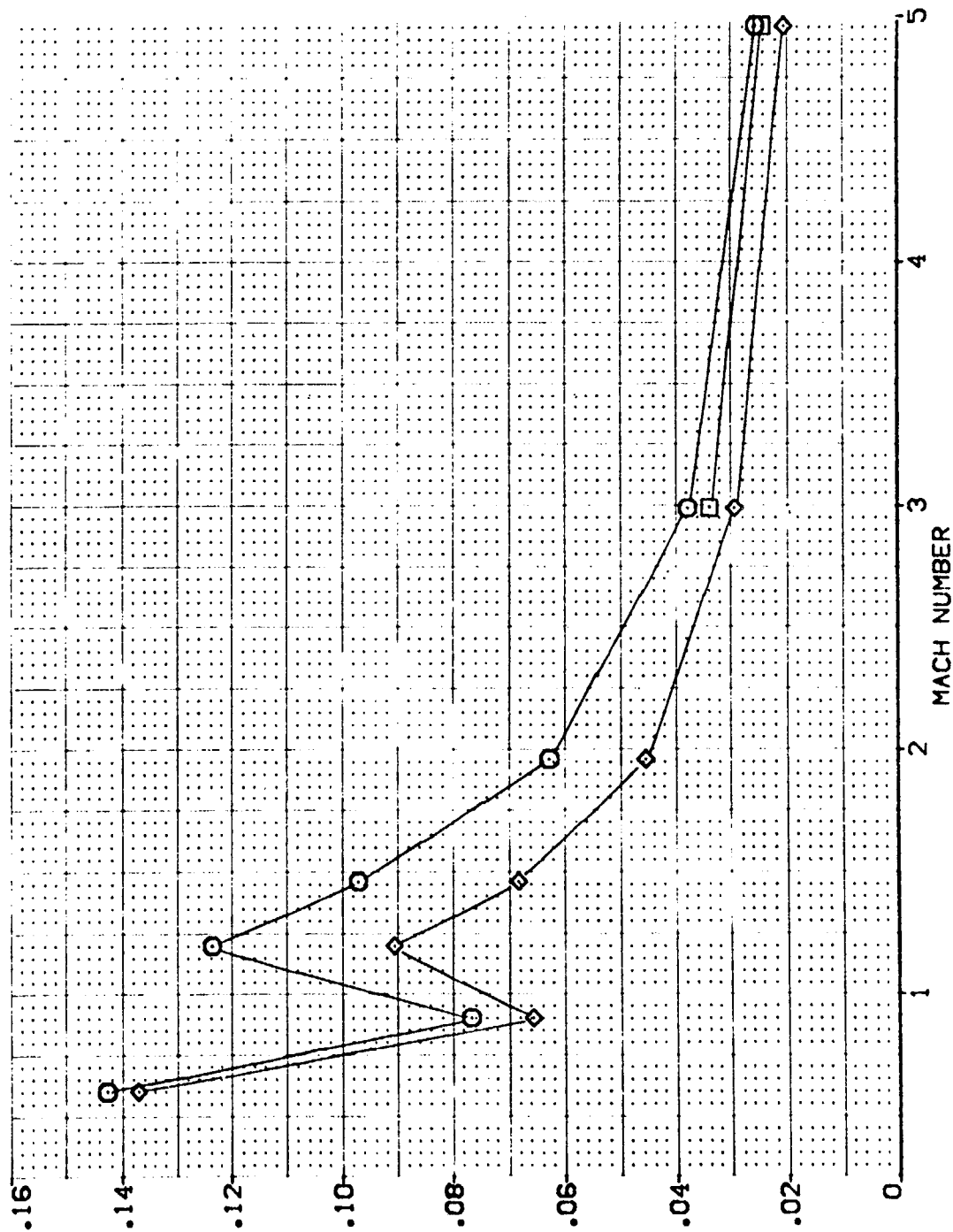
DELEVR BDFLAP SPOBRK AILRON

-33.650	-11.700	25.550	-0.320
-23.840	-11.700	25.550	-0.240
-15.550	-11.700	25.550	-0.400

REFERENCE INFORMATION

SREF	2741.8000	SQ. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XMRP	1081.3500	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0040	

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

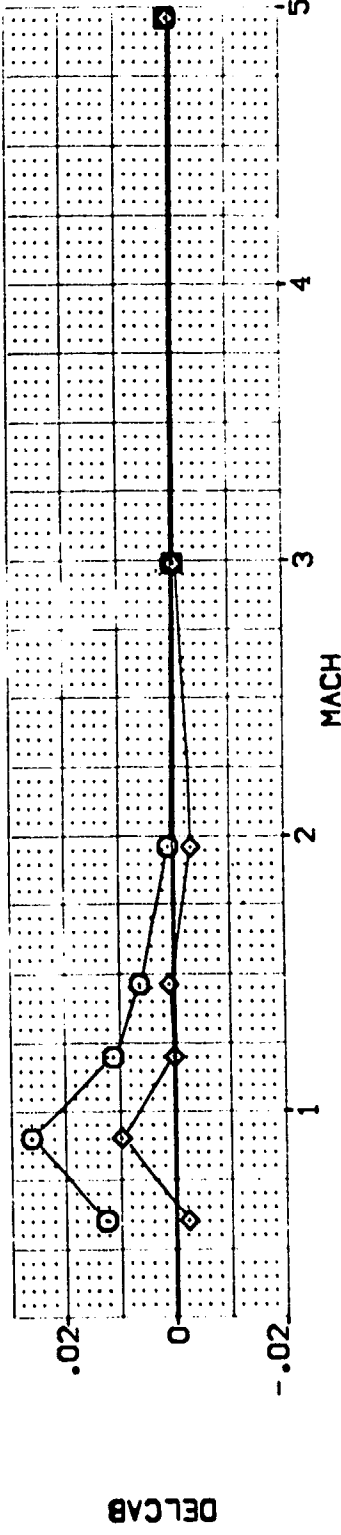
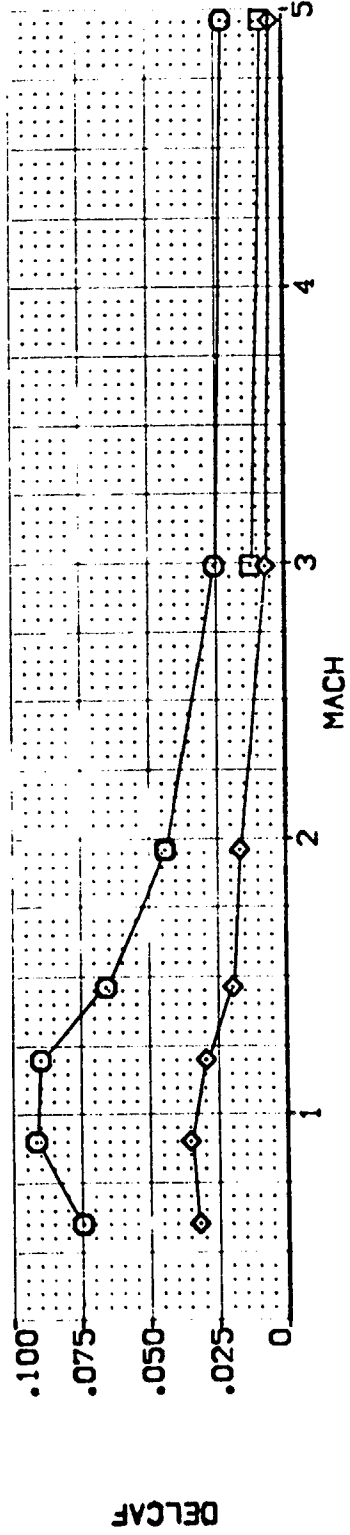
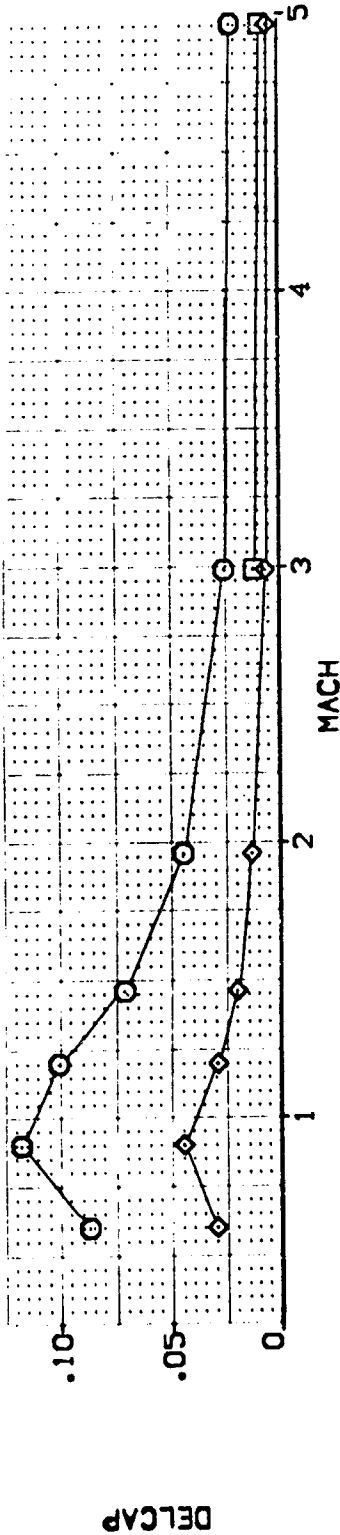


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)ALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {592001} MSFC 581(DA49) OF3 34-0 (BCFH) (VE)(VR)
 {59A117} MSFC 581(DA49) OF3 34-0 (BCFH) (VE)(VR)
 {592002} MSFC 581(DA49) OF3 34-0 (BCFH) (VE)(VR)

DELEVR BDFLAP SPOBPK AILRON REFERENCE INFORMATION
 -20.650 -11.700 25.550 -1.320 SREF 2741.8000 SQ. FT
 -23.840 -11.700 25.550 -1.240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -1.400 XMRP 936.7000 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

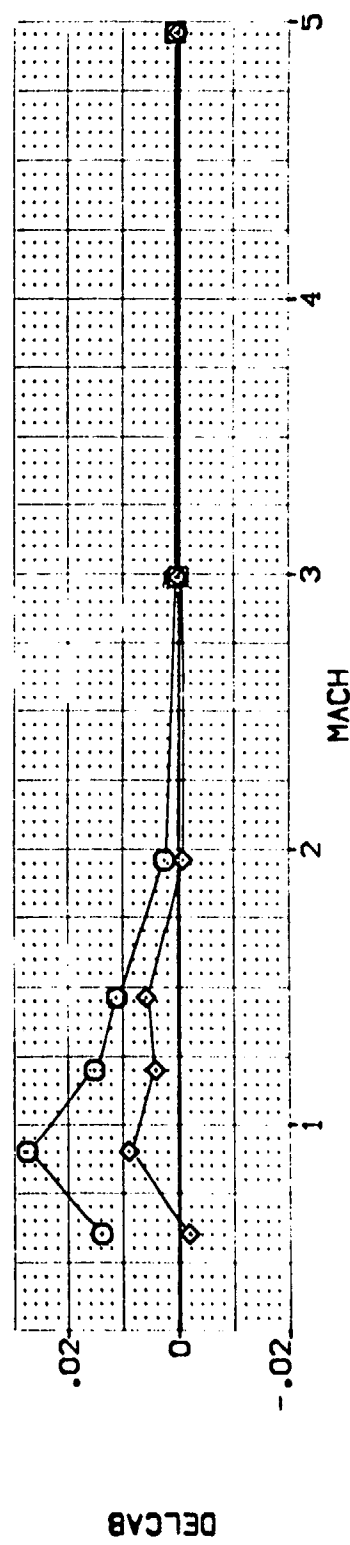
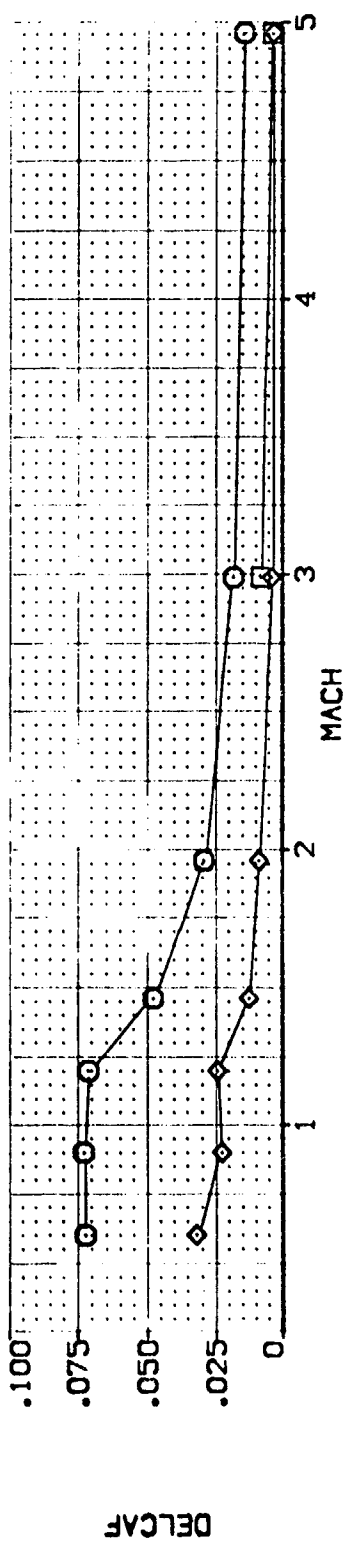
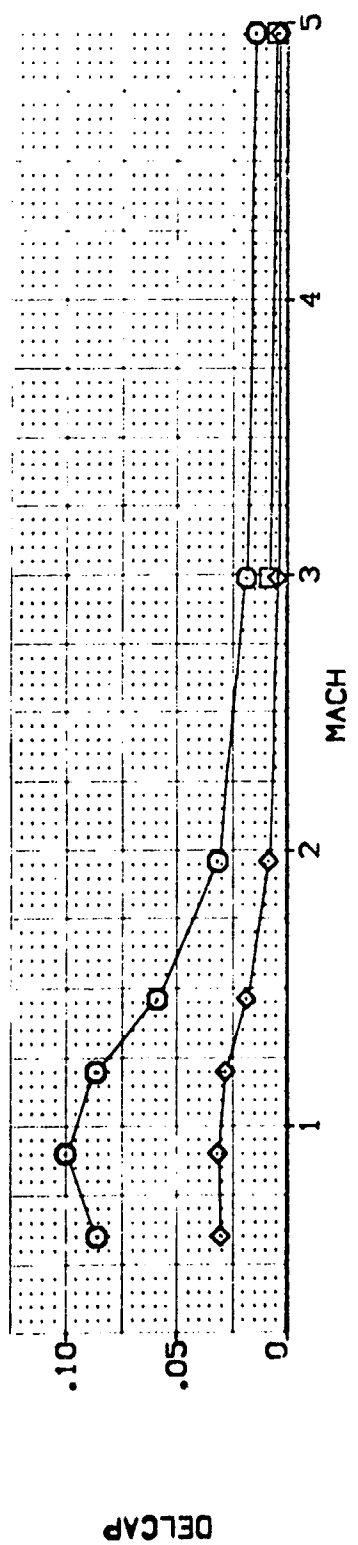


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A) ALPHA = .00



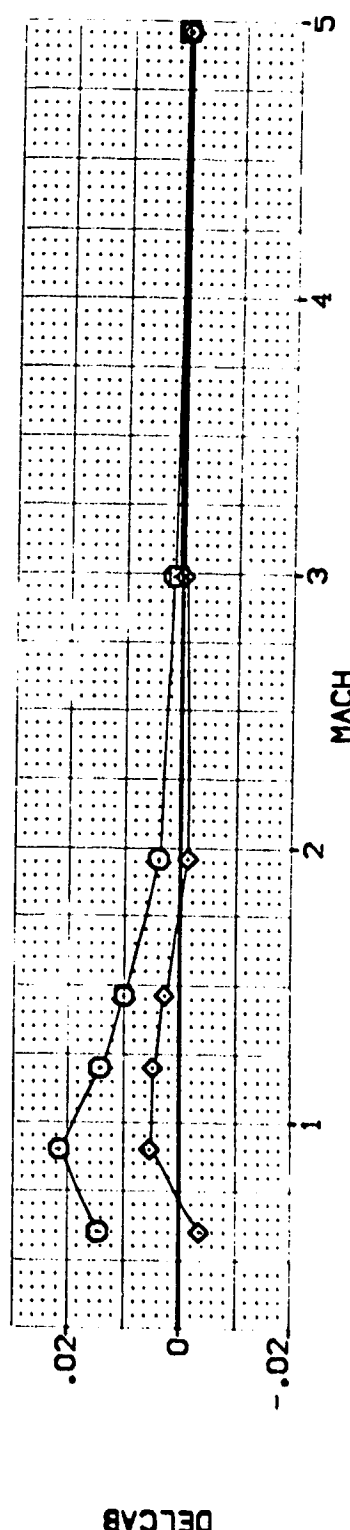
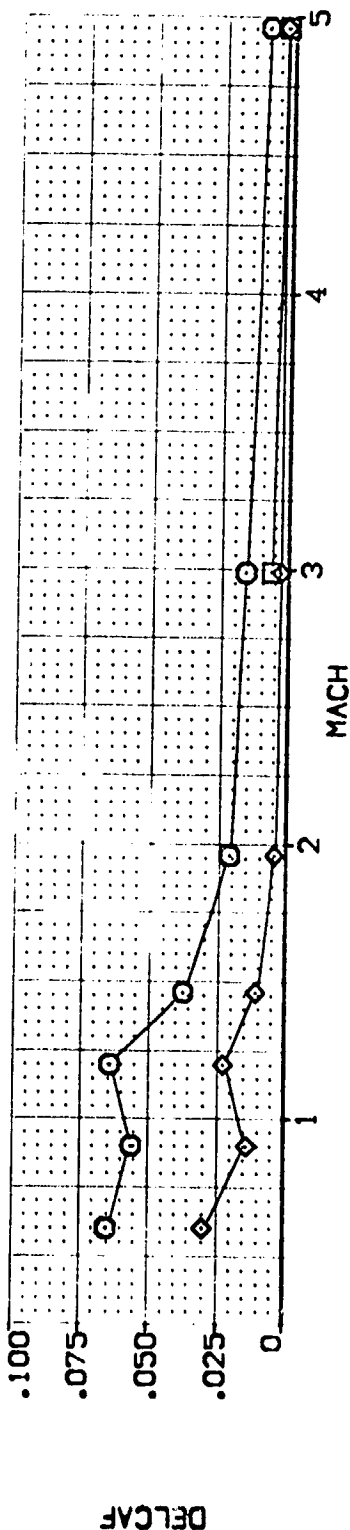
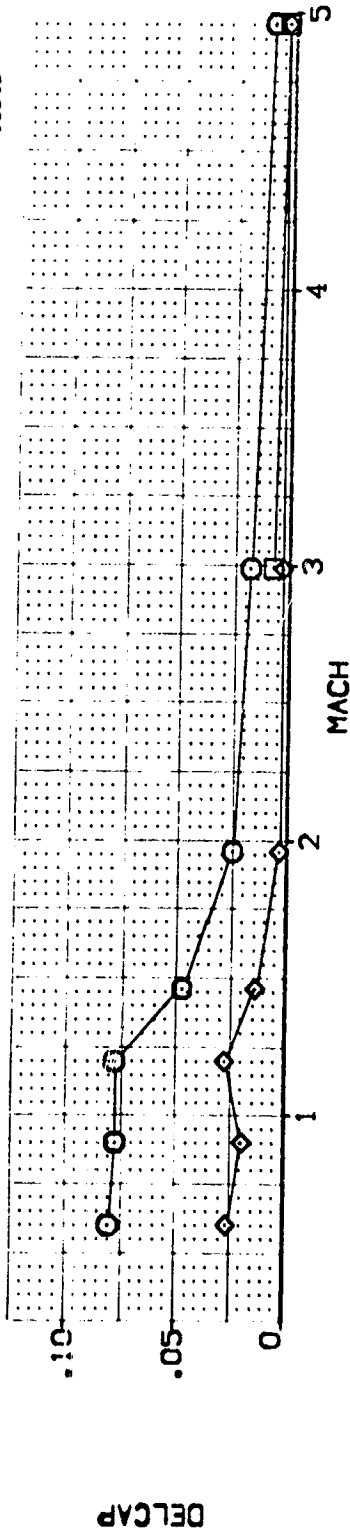
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
[592001]	MSFC 58[0449] 088 34-0 [BOCH] (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ: FT
[592002]	MSFC 58[0449] 088 34-0 [BOCH] (VE)(VR)	-23.840	-11.700	25.550	-240	LREF 481.6480 IN:
[592003]	MSFC 58[0449] 088 34-0 [BOCH] (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN:
						XTRP 1081.3500 IN:
						YTRP .0000 IN:
						ZTRP .0000 IN:
						SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)
 (B) ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (582001) MSFC 581(DA49) DB 34-0 (BCFM) (VE)(VR)
 (582002) MSFC 581(DA49) DB 34-0 (BCFM) (VE)(VR)

DELEVR BDFLAP SPOBRK AILRON REFERENCE INFORMATION
 -33.650 -11.700 25.550 -320 SREF 2741.8000 SQ. FT
 -23.840 -11.700 23.550 -240 LREF 481.6480 IN.
 -15.550 -11.700 25.550 -400 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)ALPHA = 10.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(592001) MSFC 581(DA49) DB 34-0 (BCFH) (VE)(VR)

(592002) MSFC 581(DA49) DB 34-0 (BCFH) (VE)(VR)

(592003) MSFC 581(DA49) DB 34-0 (BCFH) (VE)(VR)

DELEVR BOFLAP SPOBRK AILRON REFERENCE INFORMATION

-33.650 -11.700 25.550 2741.8000 SQ. FT

-23.840 -11.700 25.550 481.6480 IN.

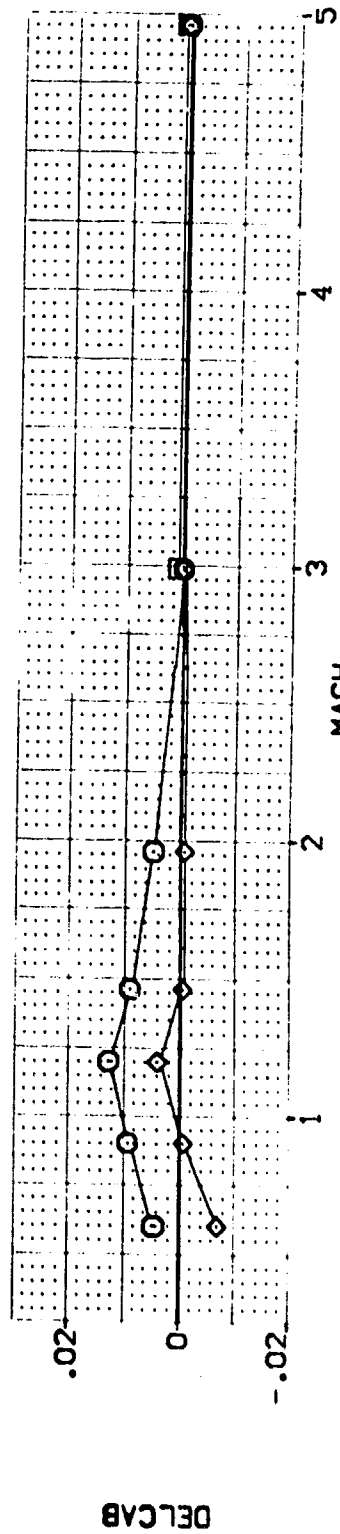
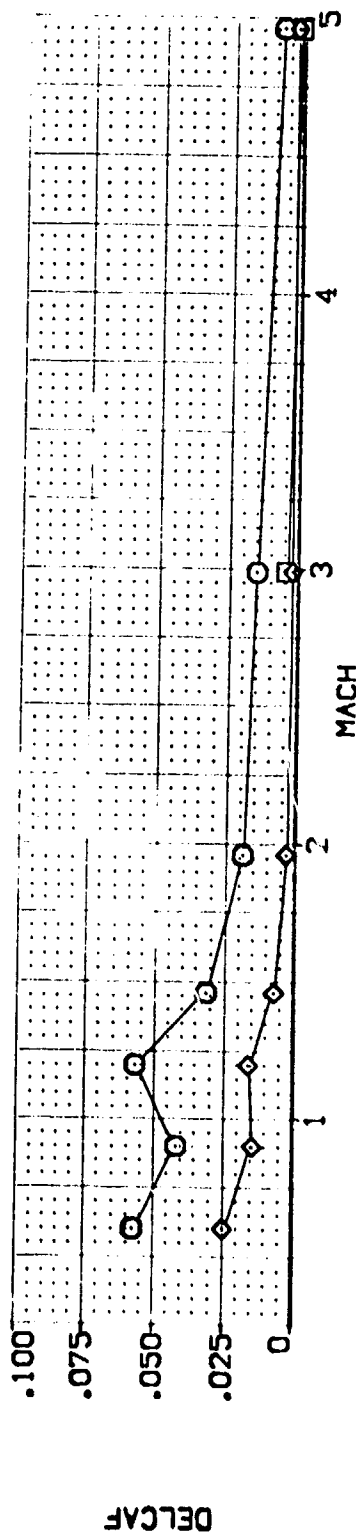
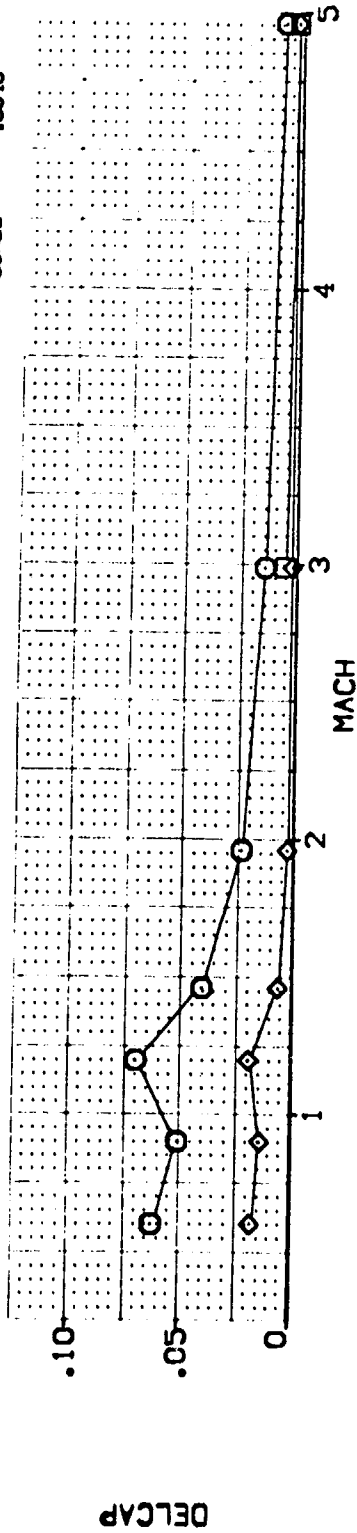
-15.550 -11.700 25.550 936.7000 IN.

1081.3500 IN.

YPRP .0000 IN.

ZPRP .0000 IN.

SCALE .0040

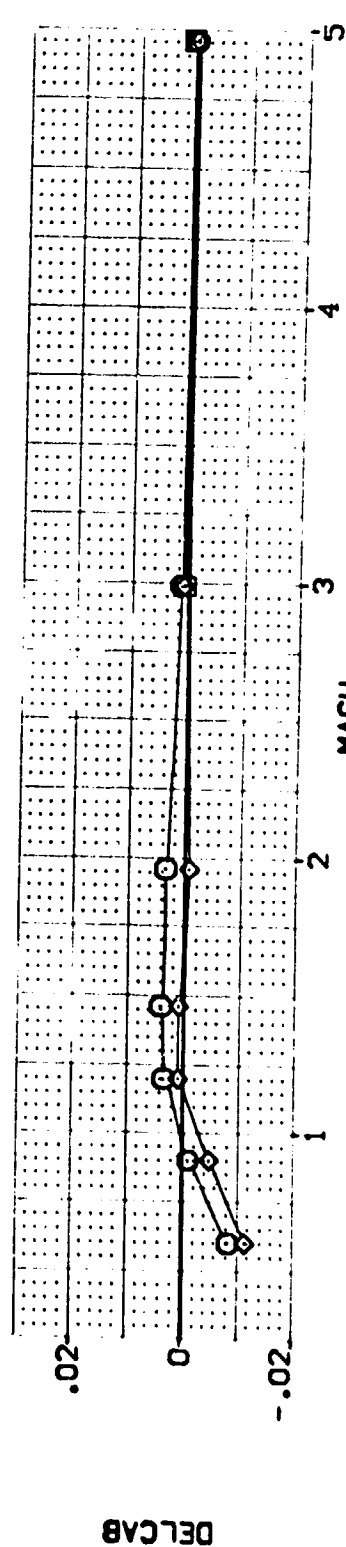
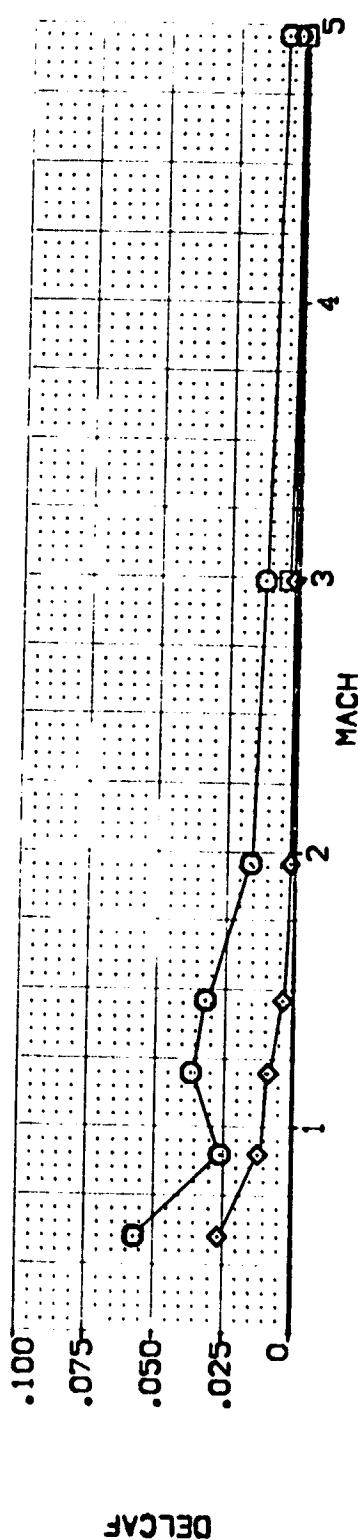
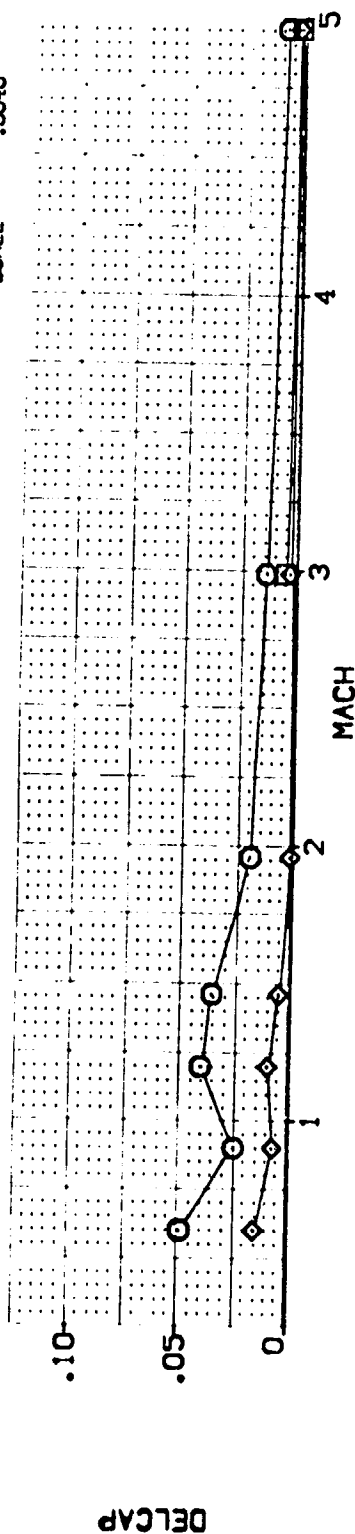


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D)ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 { 522001 } H5FC 581(CA49) 078 34-0 (BDH) (VE)(VR)
 { 522002 } H5FC 581(CA49) 078 34-0 (BDH) (VE)(VR)
 { 522002 } H5FC 581(CA49) 078 34-0 (BDH) (VE)(VR)

DELEVR BOFLAP SPOBRK AILRON REFERENCE INFORMATION
 -39.650 -11.700 25.550 -320 SREF 2741.8000 SQ. FT
 -23.940 -11.700 25.550 -240 LREF 481.6460 IN.
 -15.550 -11.700 25.550 -400 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

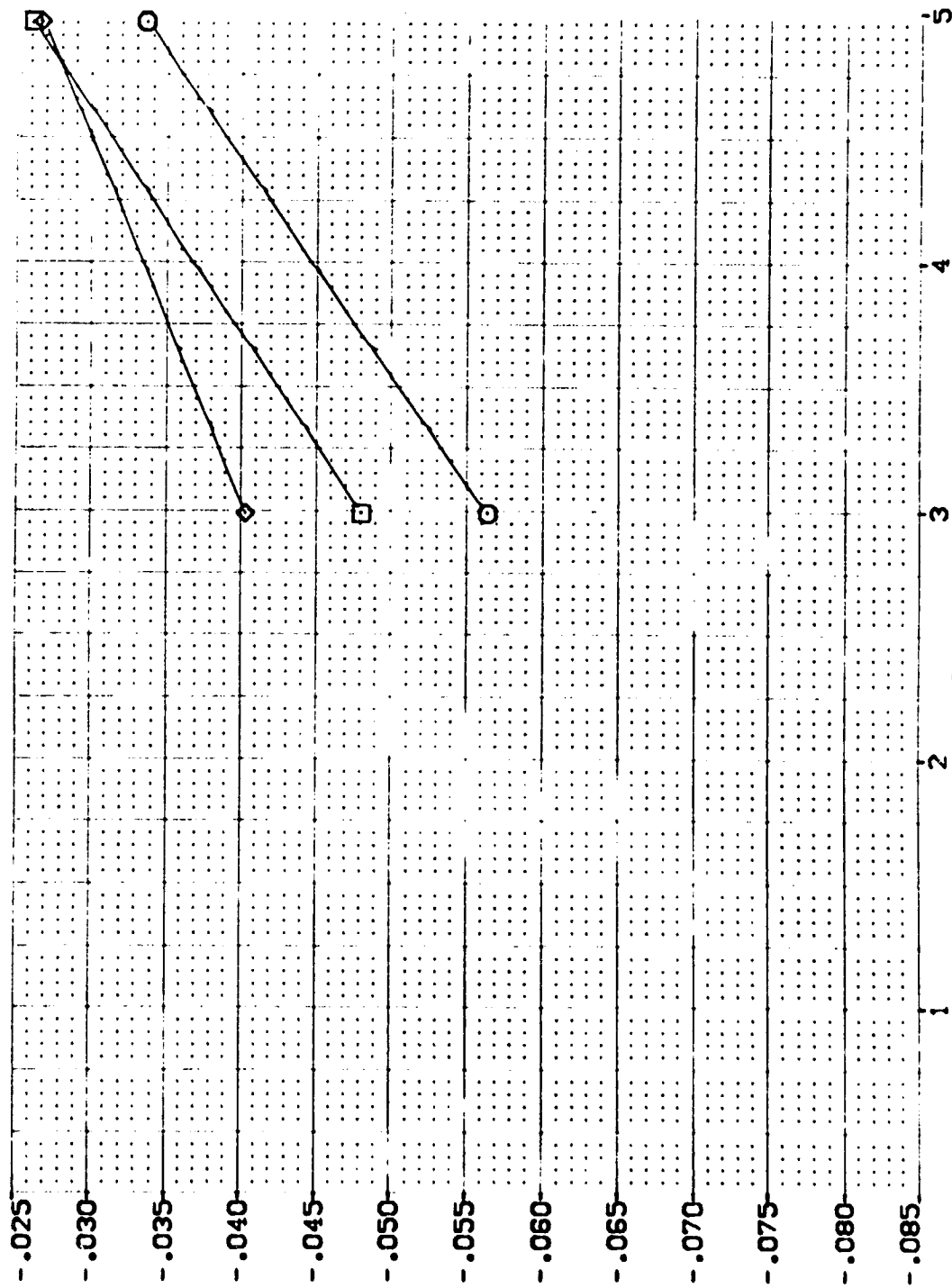


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)ALPHA = 20.00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDFLAP	SPOBRK	AIRLON	REFERENCE INFORMATION		
[52201]	MSFC 58110A49) DB 34-0 (BOTH) (VE)(VR)	-20.550	-11.700	25.550	-220	SREF	2741.8000	50. FT
[523117]	MSFC 58110A49) DB 34-0 (BOTH) (VE)(VR)	-23.810	-11.700	25.550	-240	LREF	481.5480	IN.
[52202]	MSFC 58110A49) DB 34-0 (BOTH) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF	936.7000	IN.
						XMRP	1081.3500	IN.
						YMRP	.0000	IN.
						ZMRP	.0000	IN.
						SCALE	.0040	



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

MACH NUMBER

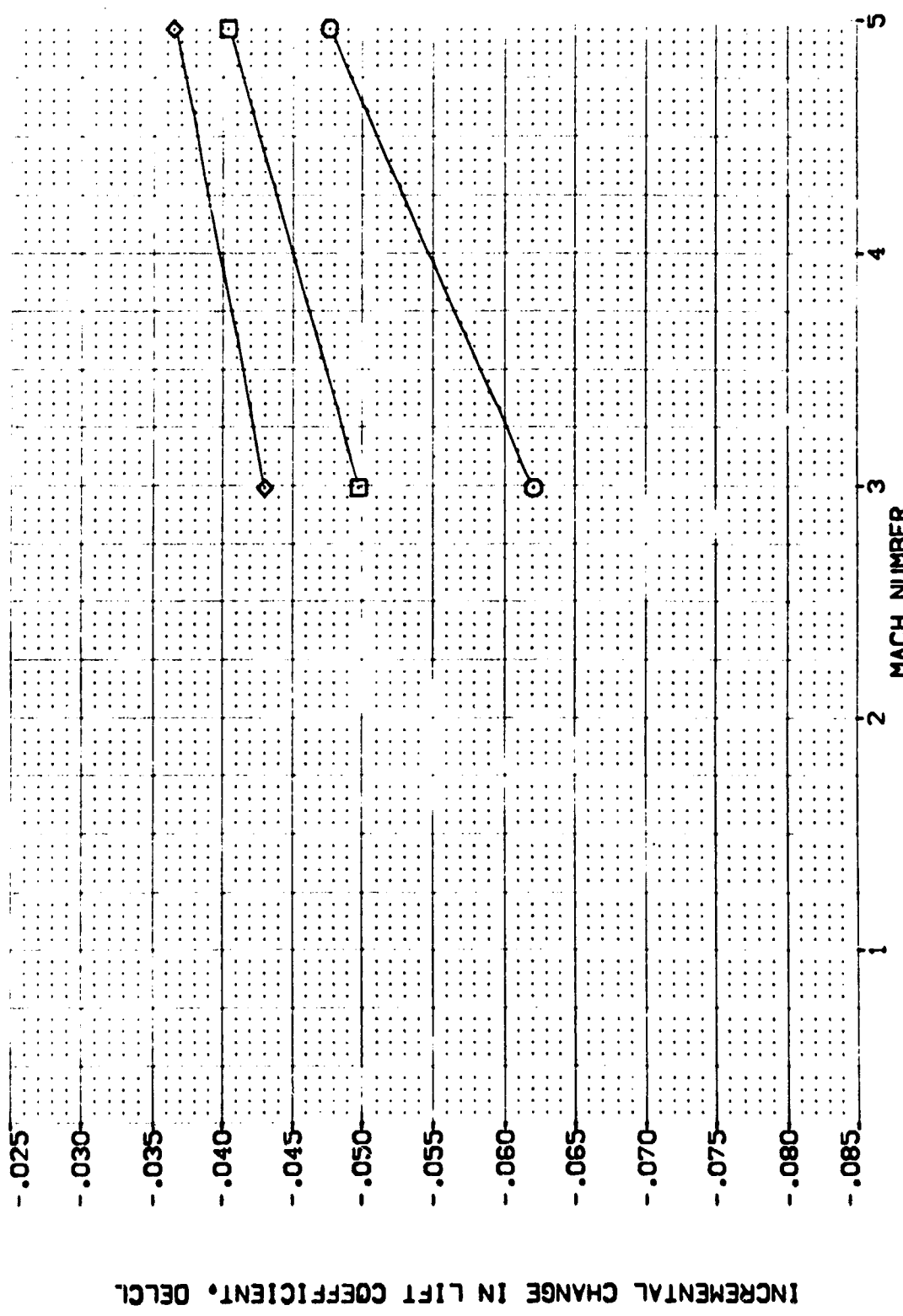
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(α) ALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (592801) MSFC 581(0A4S) DB 3A-0 (BOFM) (VE)(VR)
 (533117) MSFC 581(0A4S) DB 3A-0 (BOFM) (VE)(VR)
 (533302) MSFC 581(0A4S) DB 3A-0 (BOFM) (VE)(VR)

DELEVR BOFLAP SP03RK ALLRON
 -33.650 -11.700 25.950 -370
 -23.840 -11.700 23.350 -240
 -15.550 -11.700 23.550 -400

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



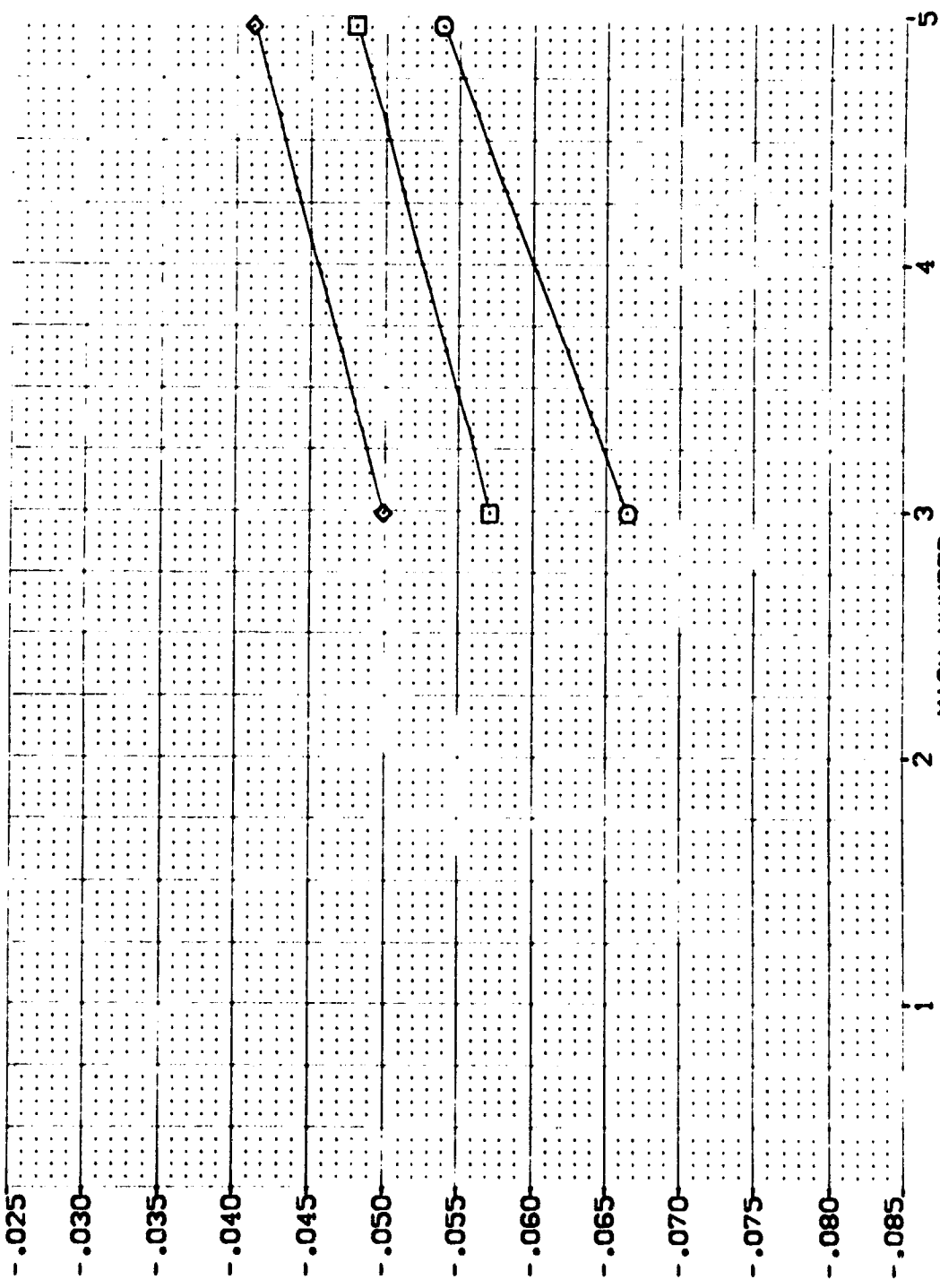
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 25.00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
[592301]	MSFC 581(0A49) DB3 34-0 (BDM) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ: FT
[593117]	MSFC 581(0A49) DB3 34-0 (BDM) (VE)(VR)	-23.840	-11.700	25.550	-240	LREF 481.6480 IN:
[592302]	MSFC 581(0A49) DB3 34-0 (BDM) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN:
						XMRP 1081.3900 IN:
						YMRP .0000 IN:
						ZMRP .0000 IN:
						SCALE .0040



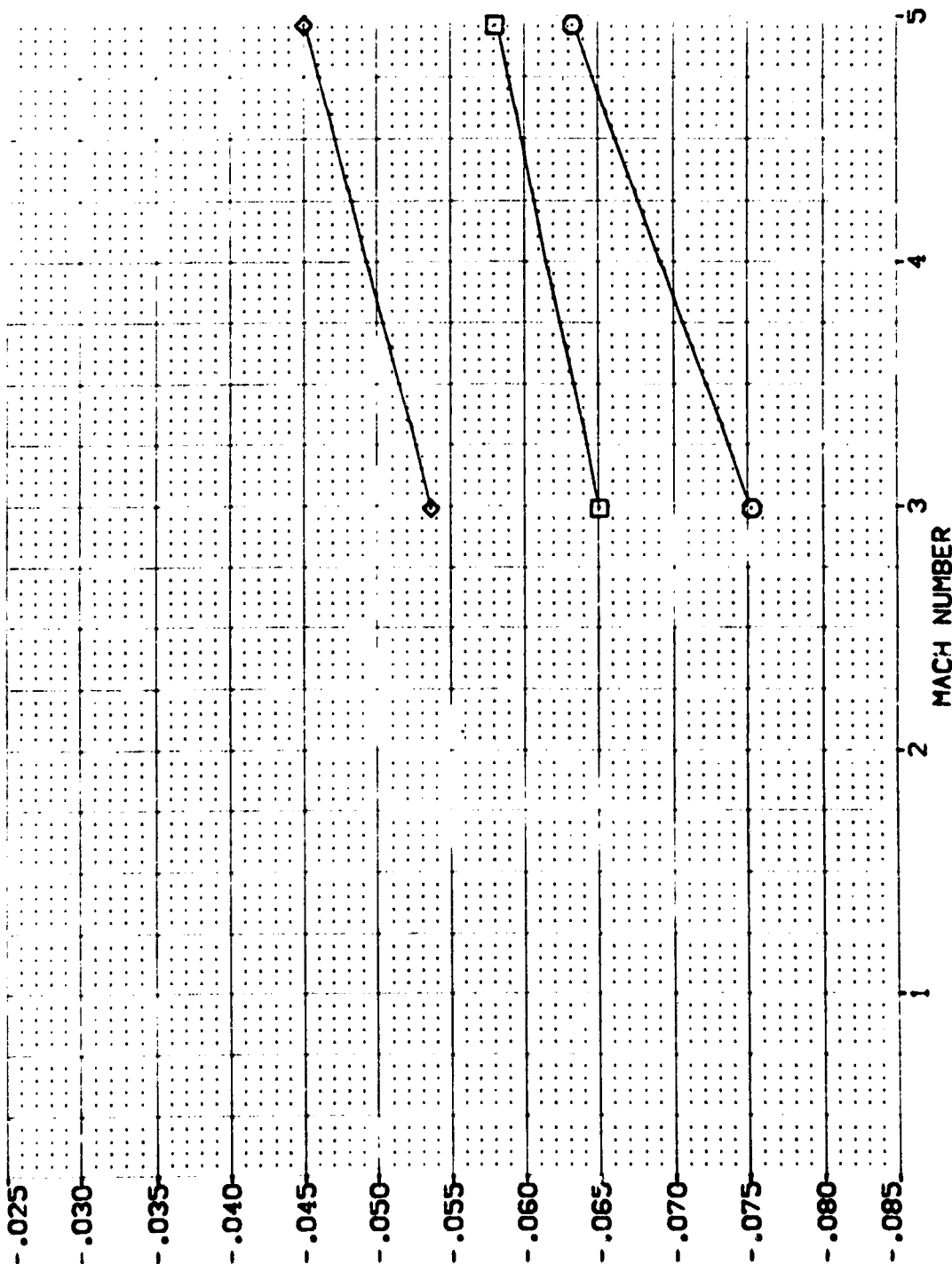
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C) ALPHA = 30.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPORBK	AILRON	REFERENCE INFORMATION
(592801)	MSFC 581(0A19) 088 34-0 (BOFN) (VE)(VR)	-34.650	-11.700	25.550	-0.320	SPREF 2741.8000 50. FT
(593117)	MSFC 581(0A19) 088 34-0 (BOFN) (VE)(VR)	-23.840	-11.700	25.550	-0.240	LREF 481.6480 IN.
(592802)	MSFC 581(0A19) 088 34-0 (BOFN) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
						XMRP 1081.3500 IN.
						YMRP 0.0000 IN.
						ZMRP 0.0000 IN.
						SCALE 0.0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

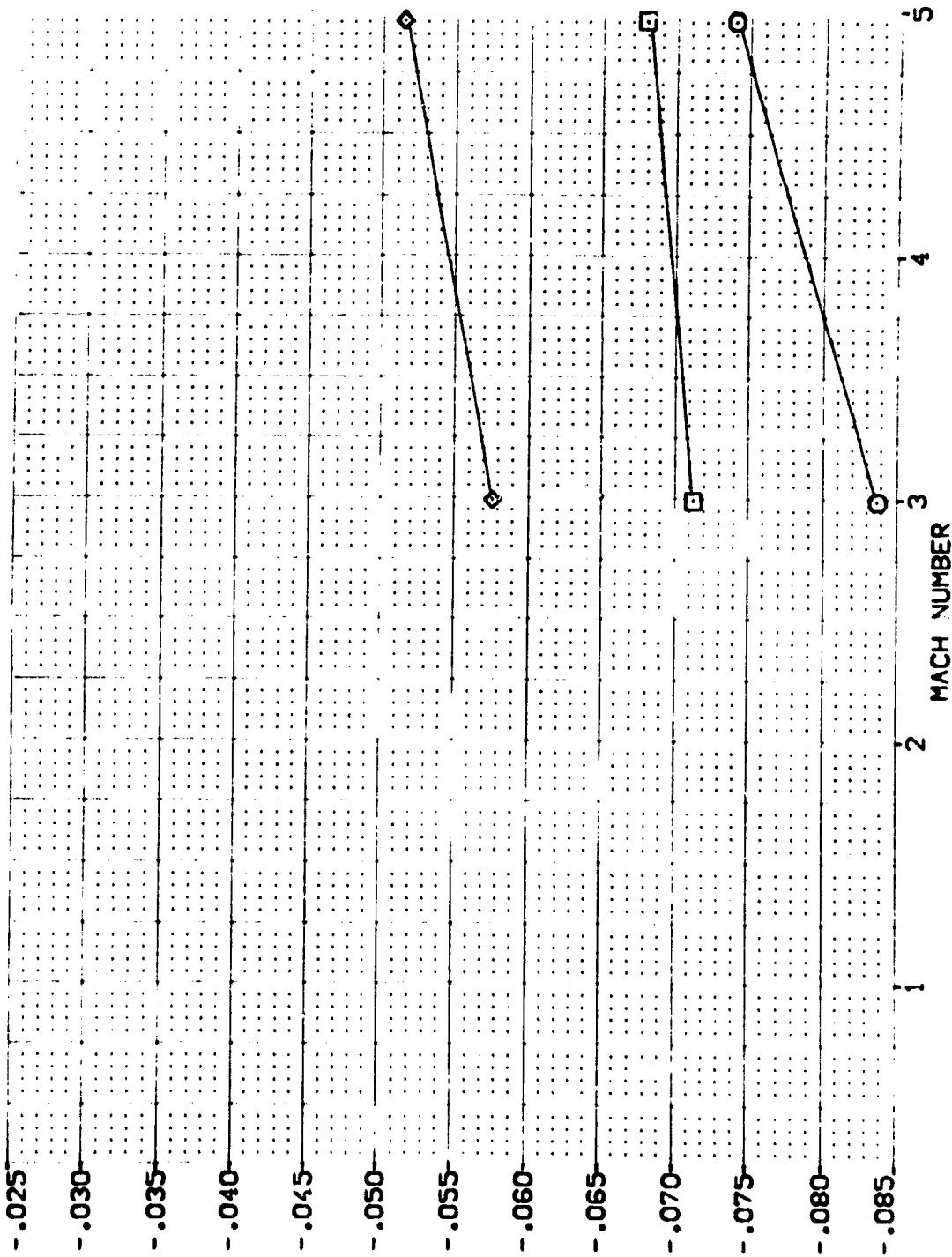
(O) ALPHA = 35.00



DATA SET SYMBOL: **9** CONFIGURATION DESCRIPTION: MSFC 581(0449) DB 3A-0 (BDM) (VE)(VR)
 {592801} MSFC 531(0449) DB 3A-0 (BDM)(VE)(VR)
 {593117} MSFC 581(0449) DB 3A-0 (BDM) (VE)(VR)
 {593802}

DELEV: -39.650 -11.700 -15.550
 BOFLAP: -11.700 -11.700 -11.700
 SPODBK: 25.550 25.550 25.550
 AILRON: -320 -240 -400

REFERENCE INFORMATION:
 SREF: 2741.8000 SQ. FT.
 LREF: 481.6480 IN.
 BREF: 936.7000 IN.
 XPRP: 1081.3500 IN.
 YPRP: .0000 IN.
 ZPRP: .0000 IN.
 SCALE: .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA CL

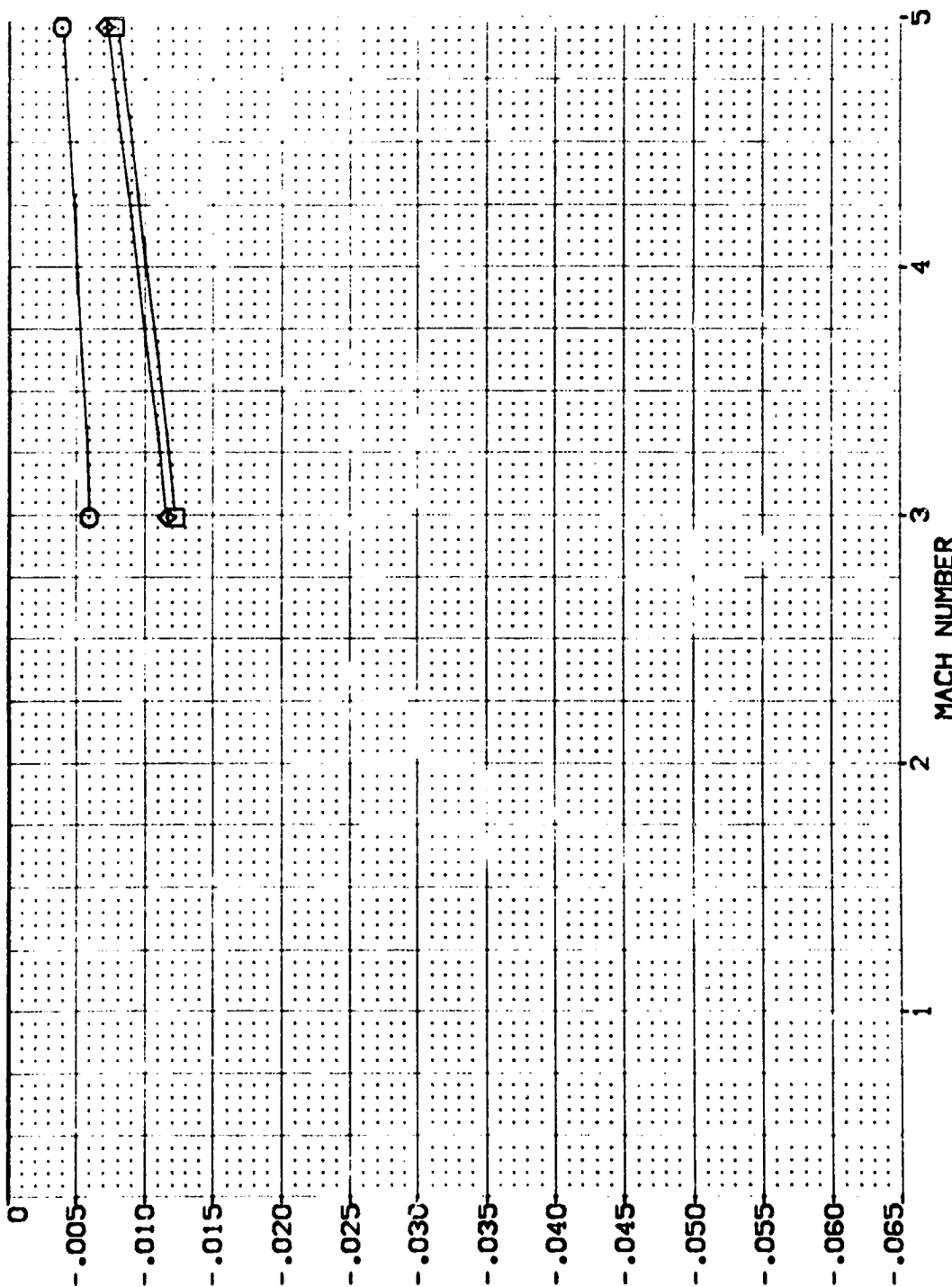
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E) ALPHA = 40.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {592801} MSFC 581(DA49) DB 34-0 (SCFH) (VE)(VR)
 {593117} MSFC 581(DA49) DB 34-0 (SCFH) (VE)(VR)
 {592802} MSFC 581(DA49) DB 34-0 (SCFH) (VE)(VR)

DELEVR BOFLAP SPOBRK AILRON
 -33.650 -11.700 25.550 -320
 -23.840 -11.700 23.550 -240
 -13.550 -11.700 23.550 -400

REFERENCE INFORMATION
 SREF 2741.8000 SQ: FT
 LREF 481.6480 IN:
 BREF 936.7000 IN:
 XMRP 1081.3500 IN:
 YMRP .0000 IN:
 ZMRP .0000 IN:
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

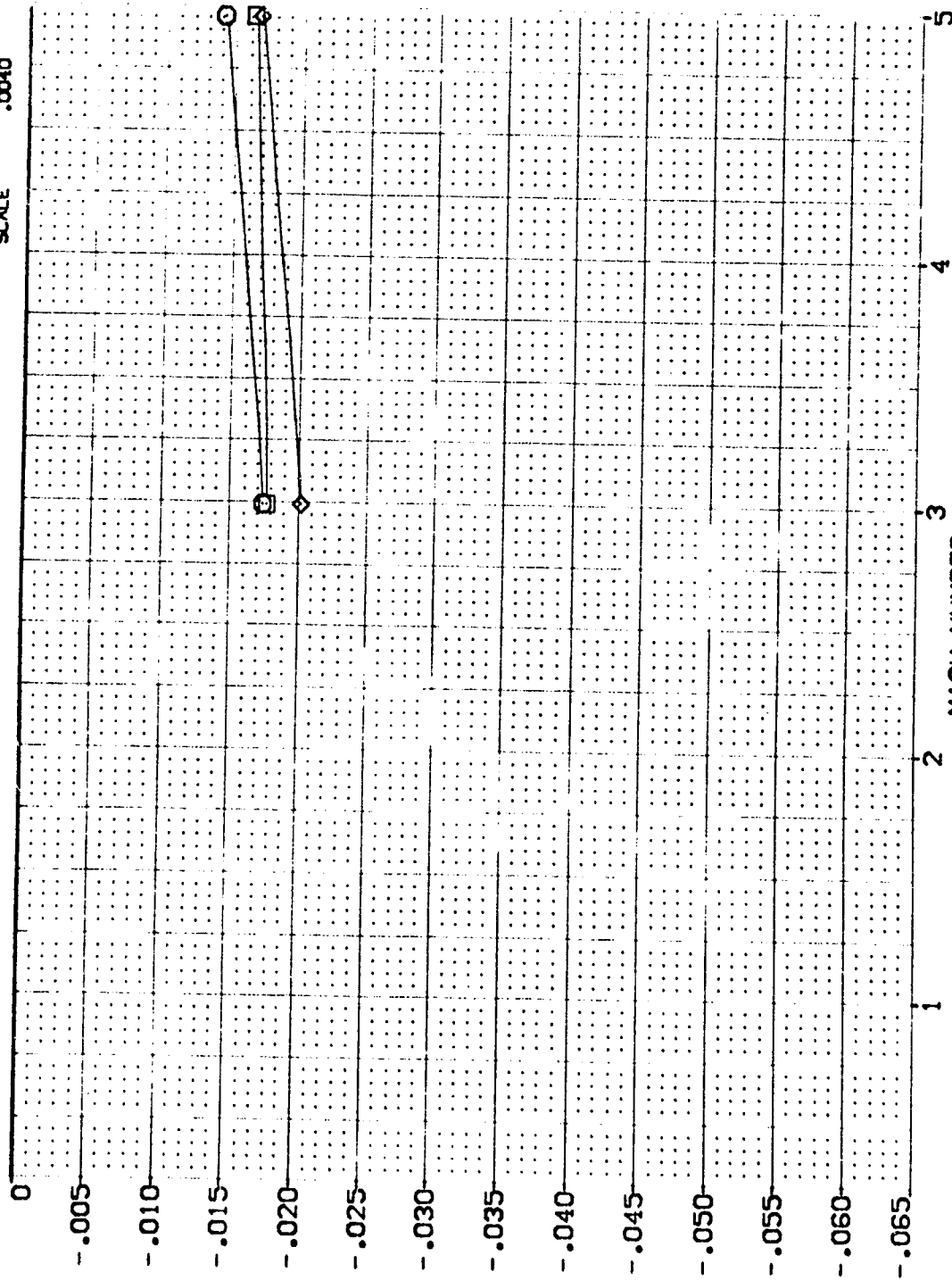
(A) ALPHA = 20.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [592801] MSFC 581(0449) 078 34-0 (BOFM) (VE)(VR)
 [593117] MSFC 501(0449) 078 34-0 (BOFM) (VE)(VR)
 [592802] MSFC 581(0449) 078 34-0 (BOFM) (VE)(VR)

DELEVR BOFLAP SPDRBK ALLRON
 -39.650 -11.700 25.550 -320
 -23.840 -11.700 23.550 -240
 -15.550 -11.700 23.550 -400

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCO

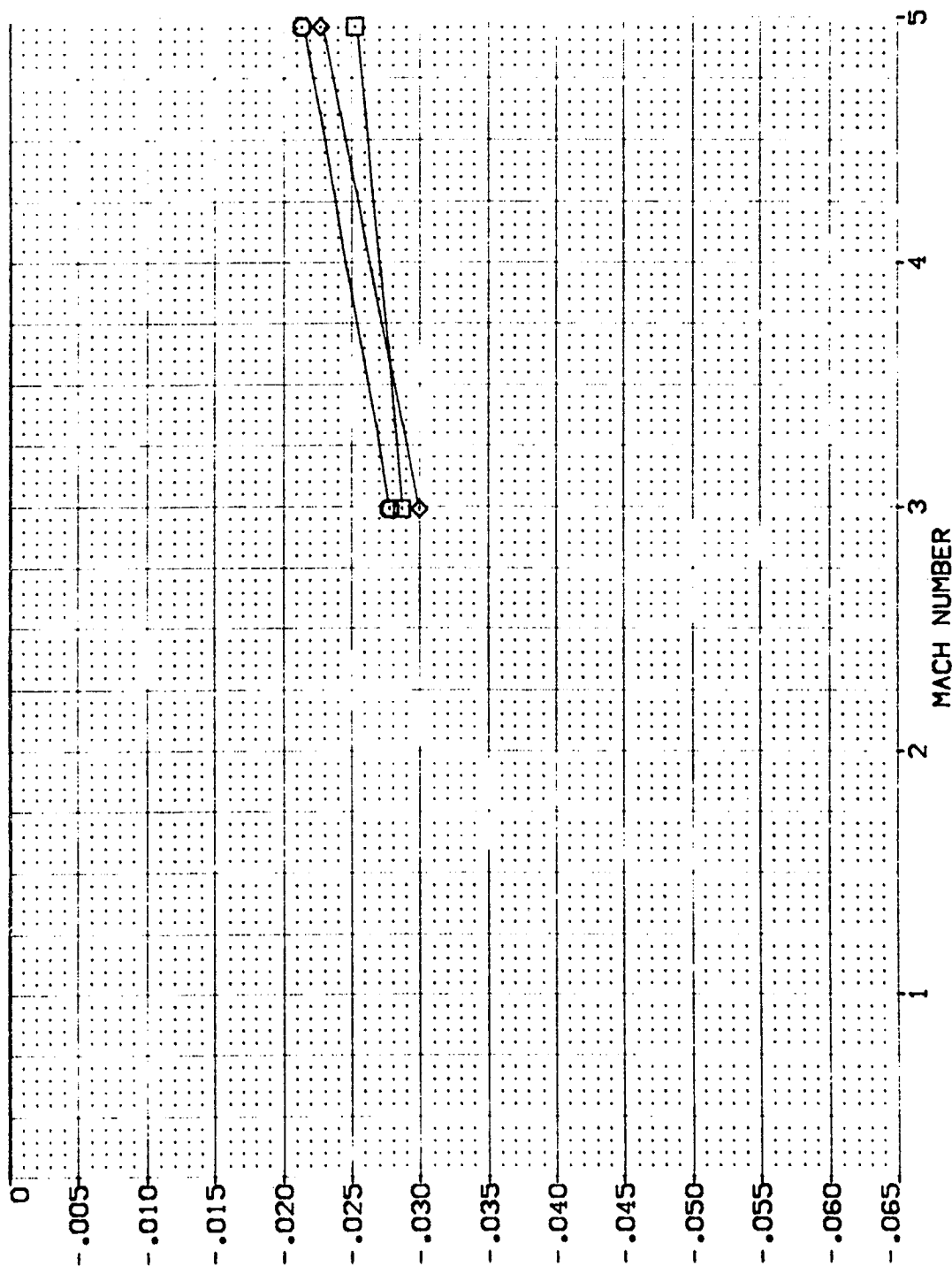
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 25.00

00000000

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPDRBK	AILRON	REFERENCE INFORMATION
(592801)	MSFC 581(0A49) CR3 34-0 (BCFM) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(593117)	MSFC 581(0A49) CR3 34-0 (BCFM) (VE)(VR)	-23.840	-11.700	25.550	-240	LREF 481.6480 IN.
(592802)	MSFC 581(0A49) CR3 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
						YMRP 1081.3600 IN.
						ZMRP .0000 IN.
						SCALE .0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



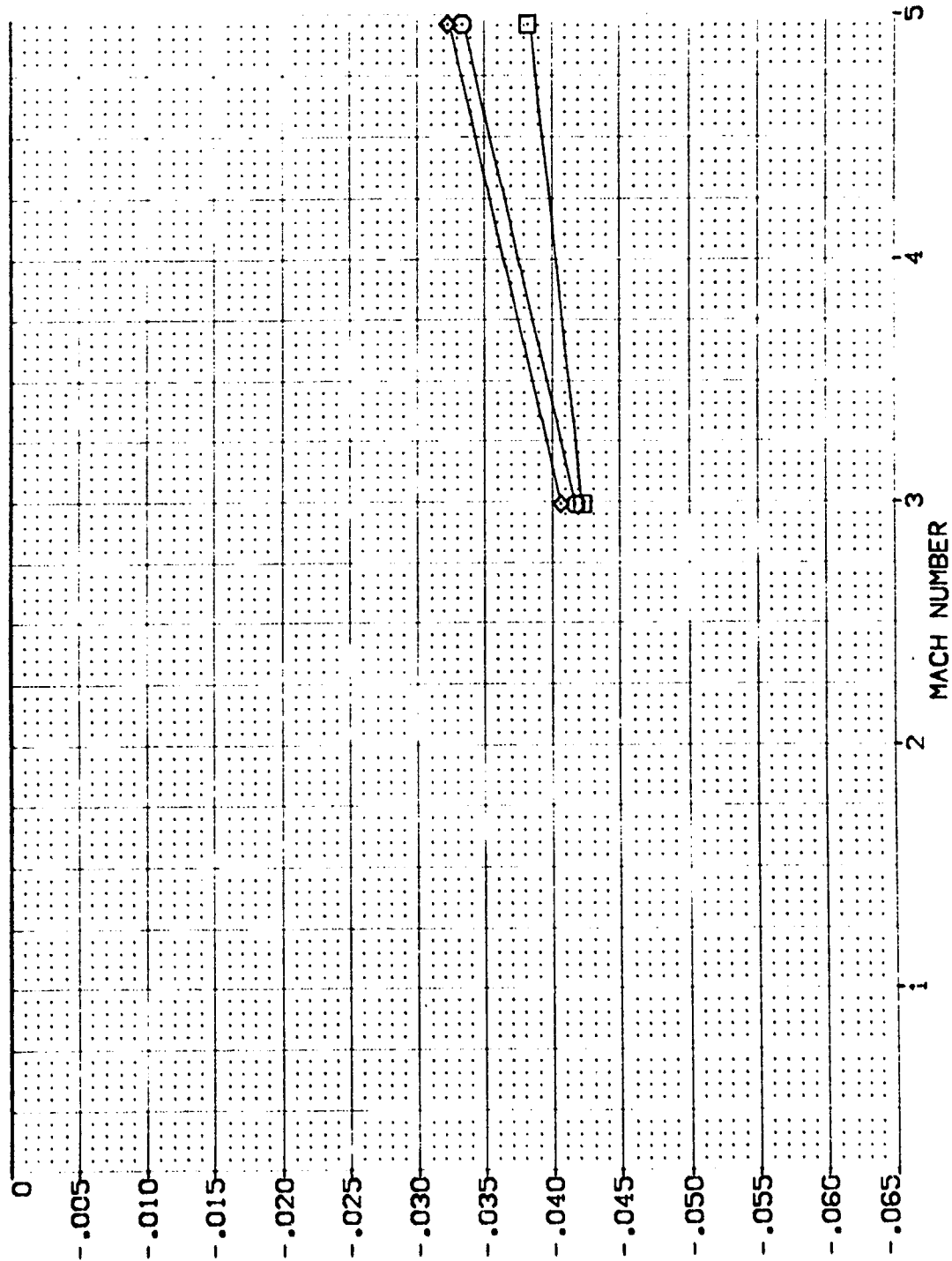
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(CJ)ALPHA = 30.00



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
[592801]	MSC S31(OA19) C28 34-0 (BCFH) (VE)(VR)	-39.650	-11.700	25.550	-0.320	SREF 2741.8000 SO. FT
[593117]	MSC S31(OA19) C28 34-0 (BCFH) (VE)(VR)	-23.840	-11.700	25.550	-0.240	LREF 481.6480 IN.
[593202]	MSC S31(OA19) C28 34-0 (BCFH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
						XMRP 1081.3900 IN.
						YMRP 0.0000 IN.
						ZMRP 0.0000 IN.
						SCALE 0.0040

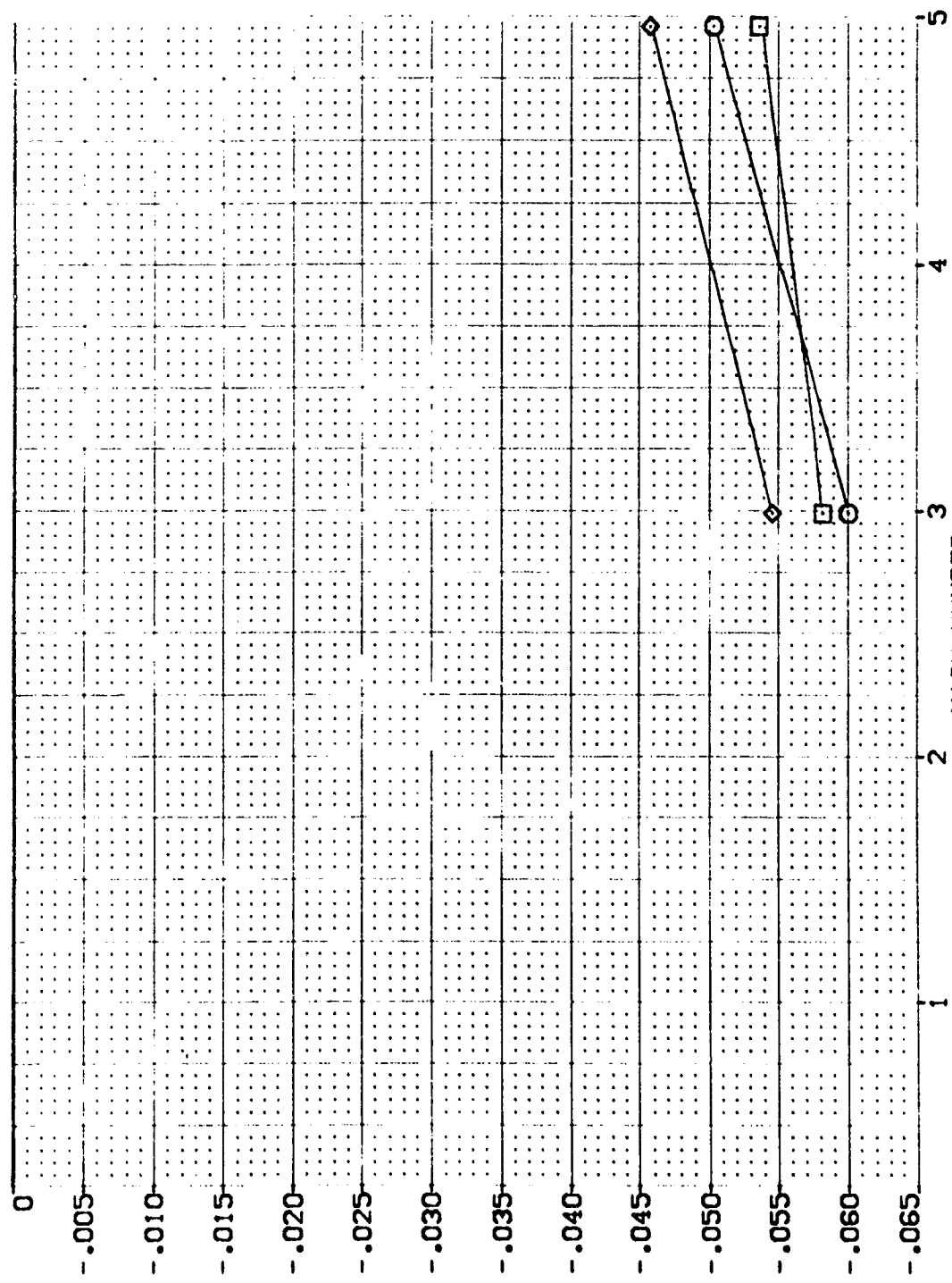


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

[D] ALPHA = 35.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDCLAP	SPDRK	AILRON	REFERENCE INFORMATION
(592901)	MSFC 591(DA49) 033 34-0 (BDCH) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(593117)	MSFC 591(DA49) 033 34-0 (BDCH) (VE)(VR)	-23.810	-11.700	25.550	-240	LREF 481.6480 IN.
(593202)	MSFC 591(DA49) 033 34-0 (BDCH) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
						YMRP 1081.3500 IN.
						ZMRP .0000 IN.
						SCALE .0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)ALPHA = 40.00

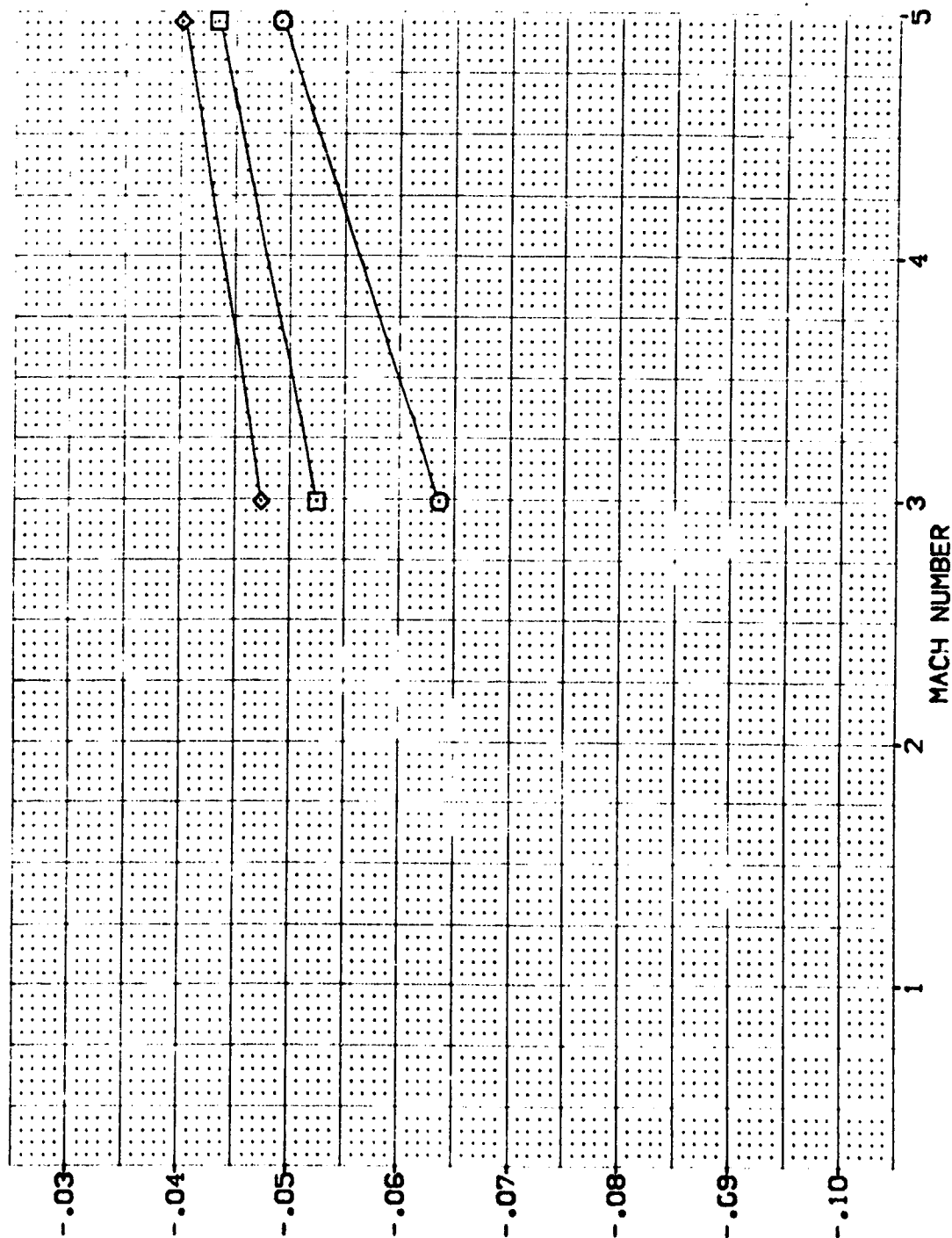




DATA SET SYMBOL CONFIGURATION DESCRIPTION
{ 592801 } { 592801 } { 592802 }
MSTC 501 (DA49) ORB 34-0 (BDTH) (VE) (VR)
MSTC 501 (DA49) ORB 34-0 (BDTH) (VE) (VR)
MSTC 501 (DA49) ORB 34-0 (BDTH) (VE) (VR)




DELEV_R DELAP SPOBRK AILRON REFERENCE INFORMATION
-33.650 -11.700 25.550 -320 SREF 2741.8000 SQ: FT
-23.840 -11.700 25.550 -240 LREF 481.6480 IN:
-15.550 -11.700 25.550 -400 BREF 936.7000 IN:
XMRP 1081.3500 IN:
YMRP 0.0000 IN:
ZMRP 0.0000 IN:
SCALE 0.0000

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 25.00

DATA SET SYMBOL:   

CONFIGURATION DESCRIPTION:

MSFC	SB1	CA49	083	34-0	BOFH	VE	VR
MSFC	SB1	CA49	083	34-0	BOFH	VE	VR
MSFC	SB1	CA49	083	34-0	BOFH	VE	VR
MSFC	SB1	CA49	083	34-0	BOFH	VE	VR

REFERENCE INFORMATION:

SREF	LREF	BREF	XMRP	YMRP	ZMRP	SCALE	SQ. FT
SREF	LREF	BREF	XMRP	YMRP	ZMRP	SCALE	SQ. FT
2741.8000	481.6480	936.7000	1061.3900	.0000	.0000	.0040	

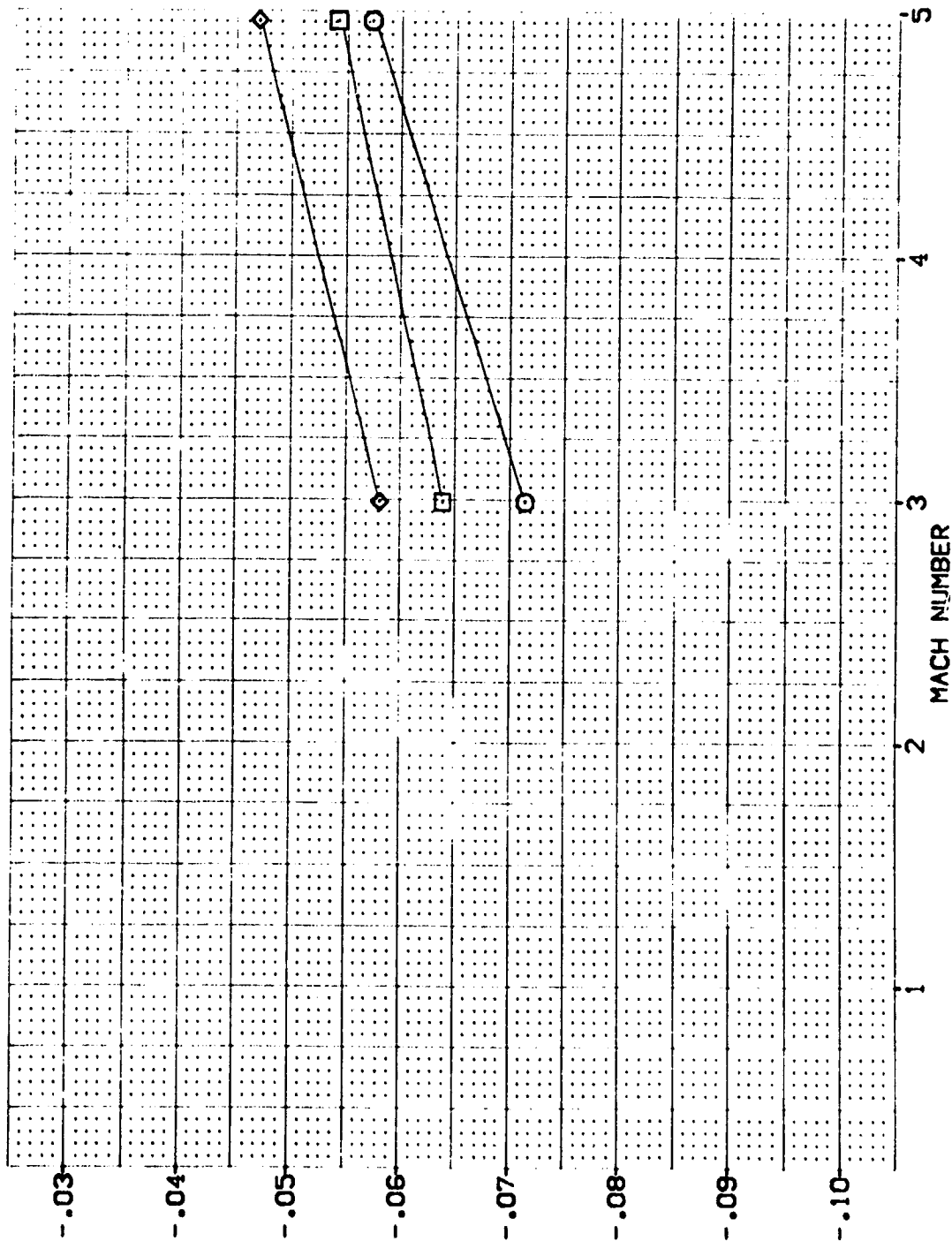
DELEVR: -33.650, -23.840, -15.550

BOFLAP: -11.700, -11.700, -11.700

SFOBRK: 25.550, 25.550, 25.550

AILRON: -.320, -.240, -.400

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



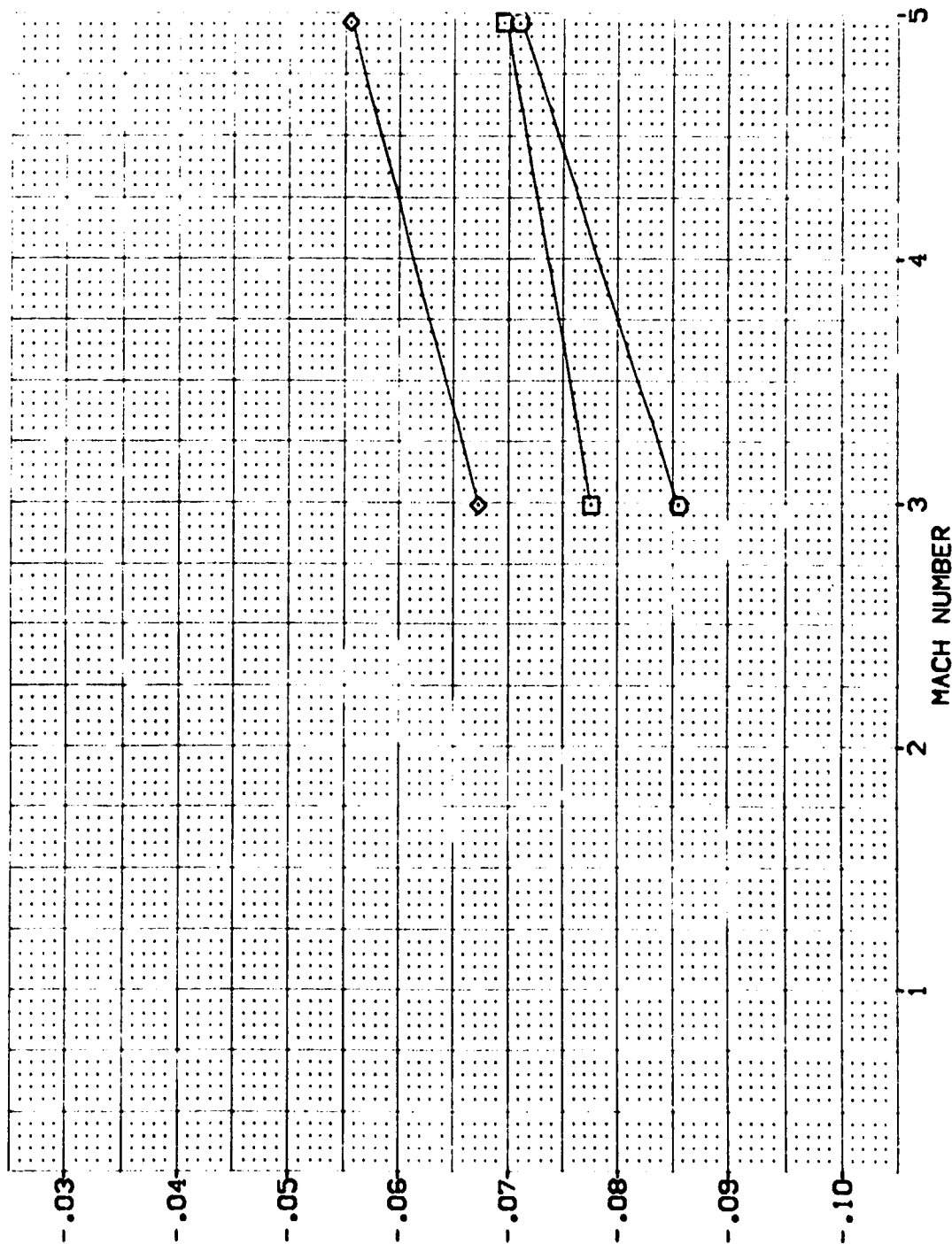
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C) ALPHA = 30.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION DELEV BDFLAP SPDRK AILRON REFERENCE INFORMATION

(592801)	HSFC 581(CA19) 078 34-0 (BDH) (VE)(VR)	-33.650	-11.700	25.550	-320	SREF	2741.8000	50. FT
(592802)	HSFC 581(CA19) 078 34-0 (BDH) (VE)(VR)	-23.840	-11.700	25.550	-240	LREF	481.6480	IN.
(592802)	HSFC 581(CA19) 078 34-0 (BDH) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF	936.7000	IN.
						XMRP	1081.3500	IN.
						YMRP	.0000	IN.
						ZMRP	.0000	IN.
						SCALE	.0040	

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

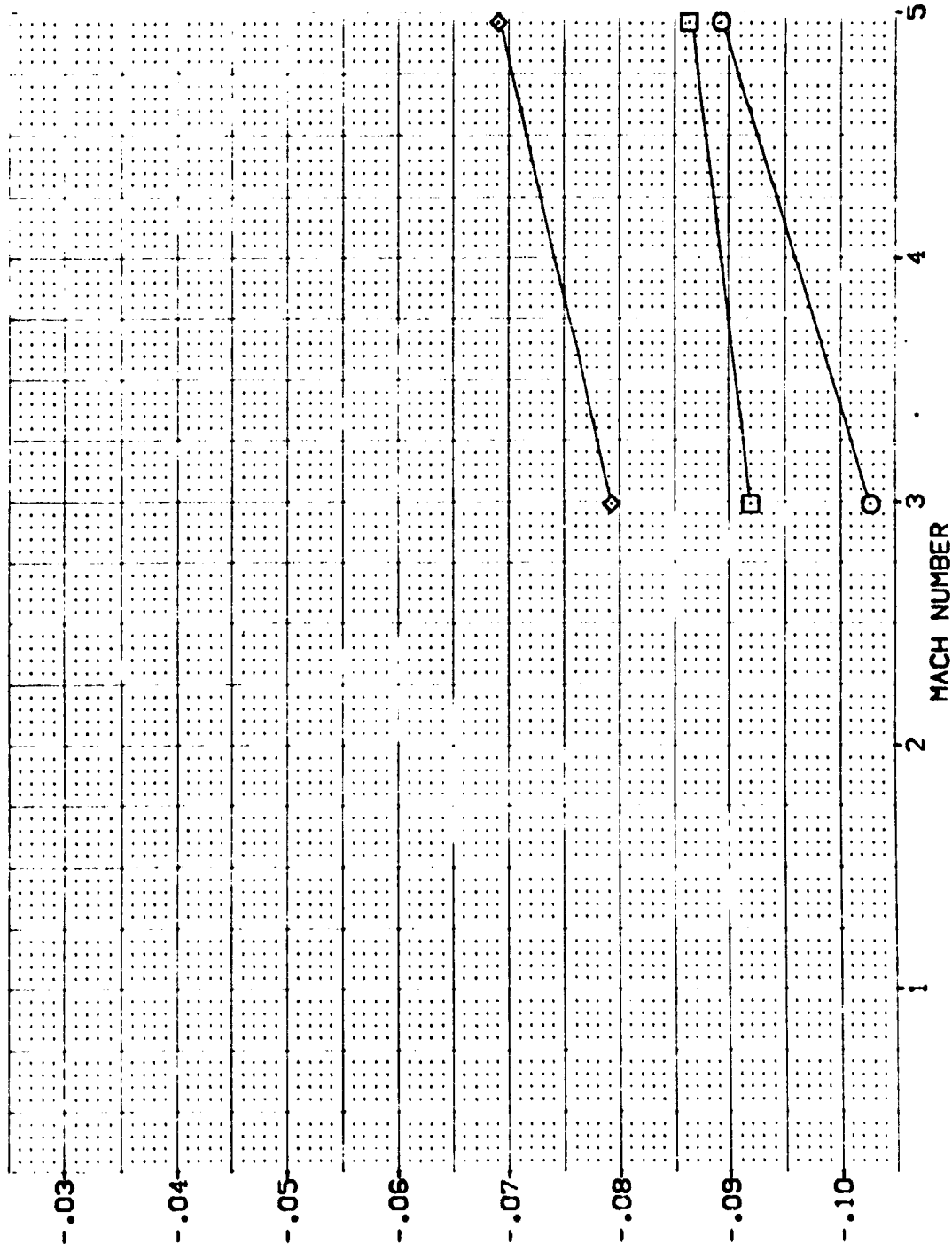
(DJALPHA = 35.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

MSFC 501(0A49) DB 3A-0 (BOFM) (VE)(VR)	DELEV	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(592801)	-33.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(593117)	-22.840	-11.700	23.550	-240	LREF 481.6480 IN.
(592802)	-15.550	-11.700	23.550	-400	BREF 936.7000 IN.
					XMRP 1081.3900 IN.
					YMRP .0000 IN.
					ZMRP .0000 IN.
					SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)ALPHA = 40.00

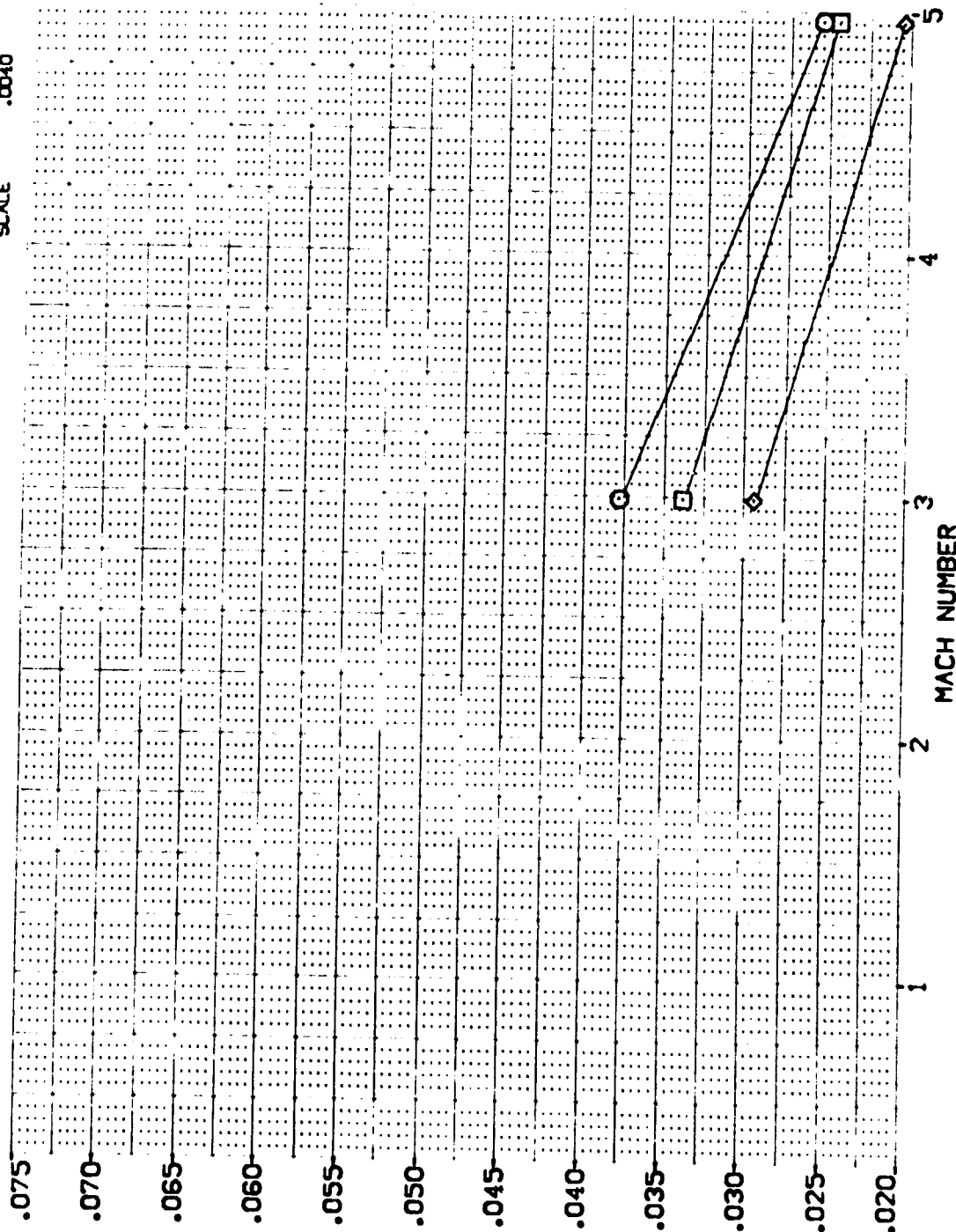


DATA SET SYMBOL CONFIGURATION DESCRIPTION
(592801) HSC 581(CA49) 088 34-0 (BDTH) (VE)(VR)
(592802) HSC 581(CA49) 088 34-0 (BDTH) (VE)(VR)
(592803) HSC 581(CA49) 088 34-0 (BDTH) (VE)(VR)

DELEVR BOFLAP SPDRBK AILRON
-33.650 -11.700 25.550 -370
-23.840 -11.700 25.550 -240
-15.550 -11.700 25.550 -400

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3900 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCM



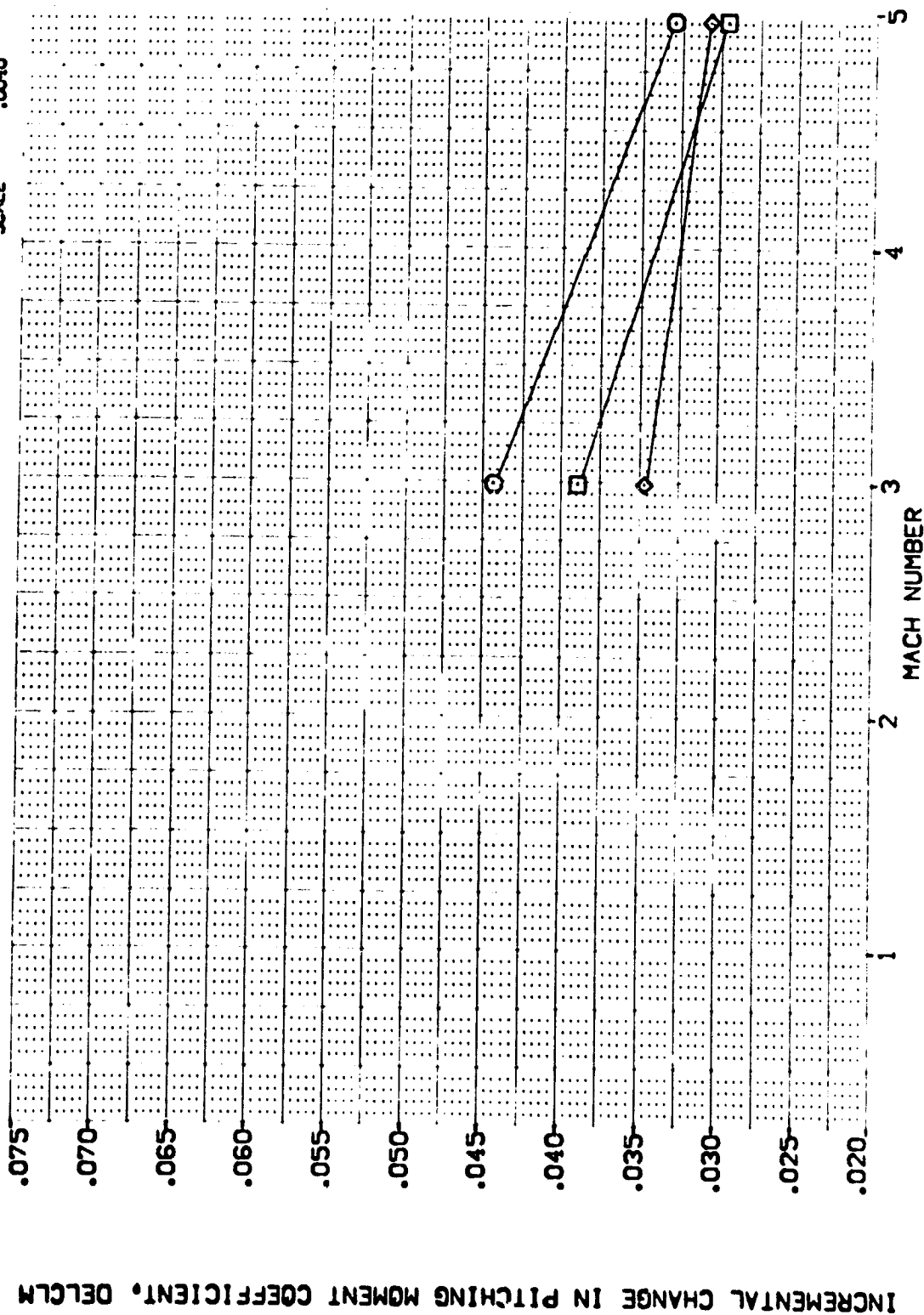
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(α) ALPHA = 20.00

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION
(S92801)	MFCT 581(DA49) DB 34-0	(BDFN) (VE) (VR)
(S93117)	MFCT 581(DA49) DB 34-0	(BDFN) (VE) (VR)
(S92802)	MFCT 581(DA49) DB 34-0	(BDFN) (VE) (VR)

DELEVR	BOFLAP	SPOBRK	AILRON
-33.650	-11.700	25.550	-320
-23.84W	-11.700	25.550	-240
-15.550	-11.700	25.550	-400

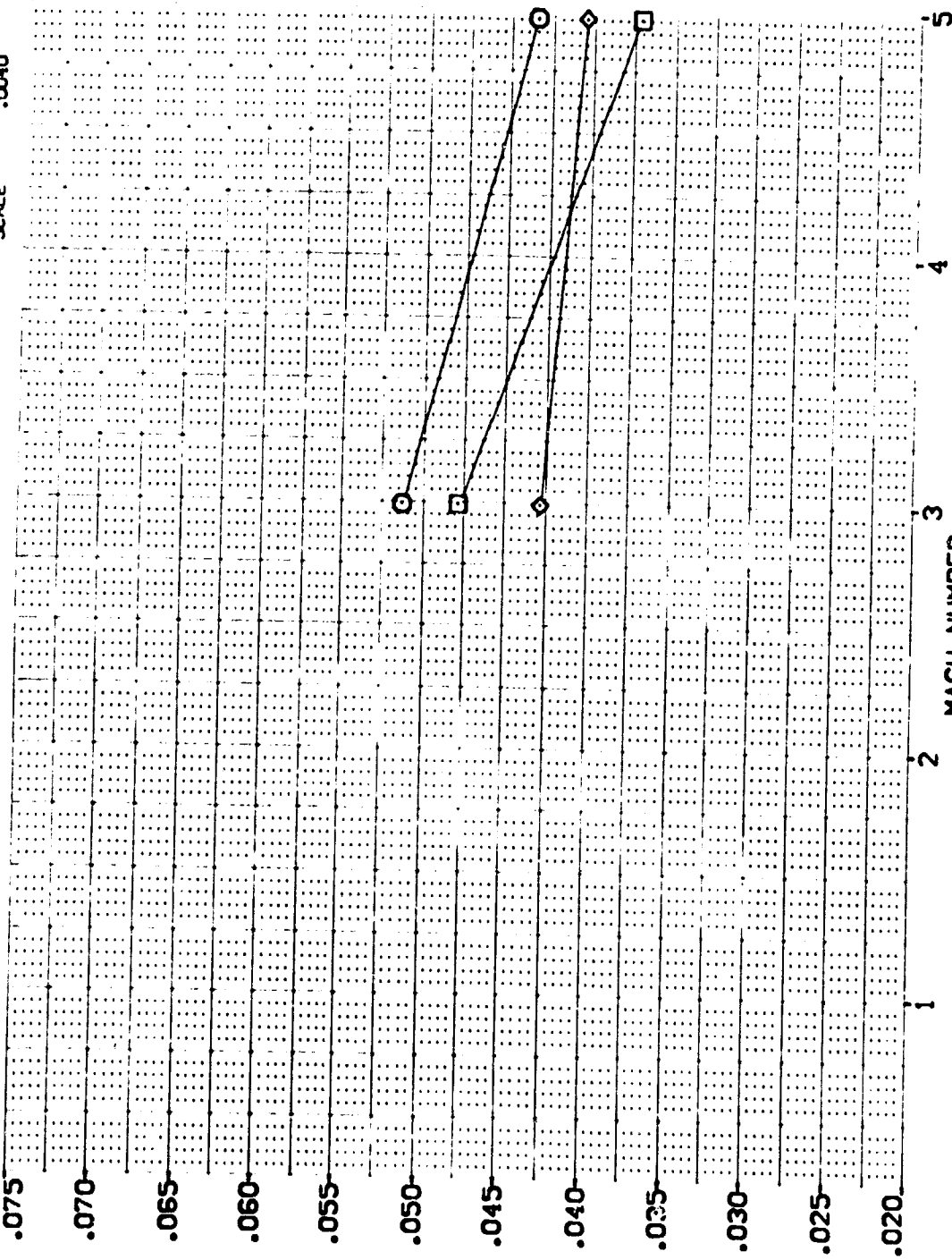
REFERENCE INFORMATION	
GREF	2741.8000 SQ. FT
LREF	481.6480 IN.
BREF	936.7000 IN.
XPRP	1081.3500 IN.
YPRP	.0000 IN.
ZPRP	.0000 IN.
SCALE	.0040



DATA SET SYMBOL: 1
 CONFIGURATION DESCRIPTION:
 MSFC 581(0A49) 073 34-0 (BOTH) (VE)(VR)
 MSFC 581(0A49) 073 34-0 (BOTH) (VE)(VR)
 MSFC 581(0A49) 073 34-0 (BOTH) (VE)(VR)

DELEVR: -23.650
 BOFLAP: -11.700
 SPOBRK: 25.550
 AILRON: -320
 -240
 -400

REFERENCE INFORMATION:
 SREF: 2741.8000 SQ: FT
 LREF: 481.6480 IN:
 BREF: 936.7000 IN:
 XPRP: 1081.3500 IN:
 YPRP: .0000 IN:
 ZPRP: .0000 IN:
 SCALE: .0040



INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

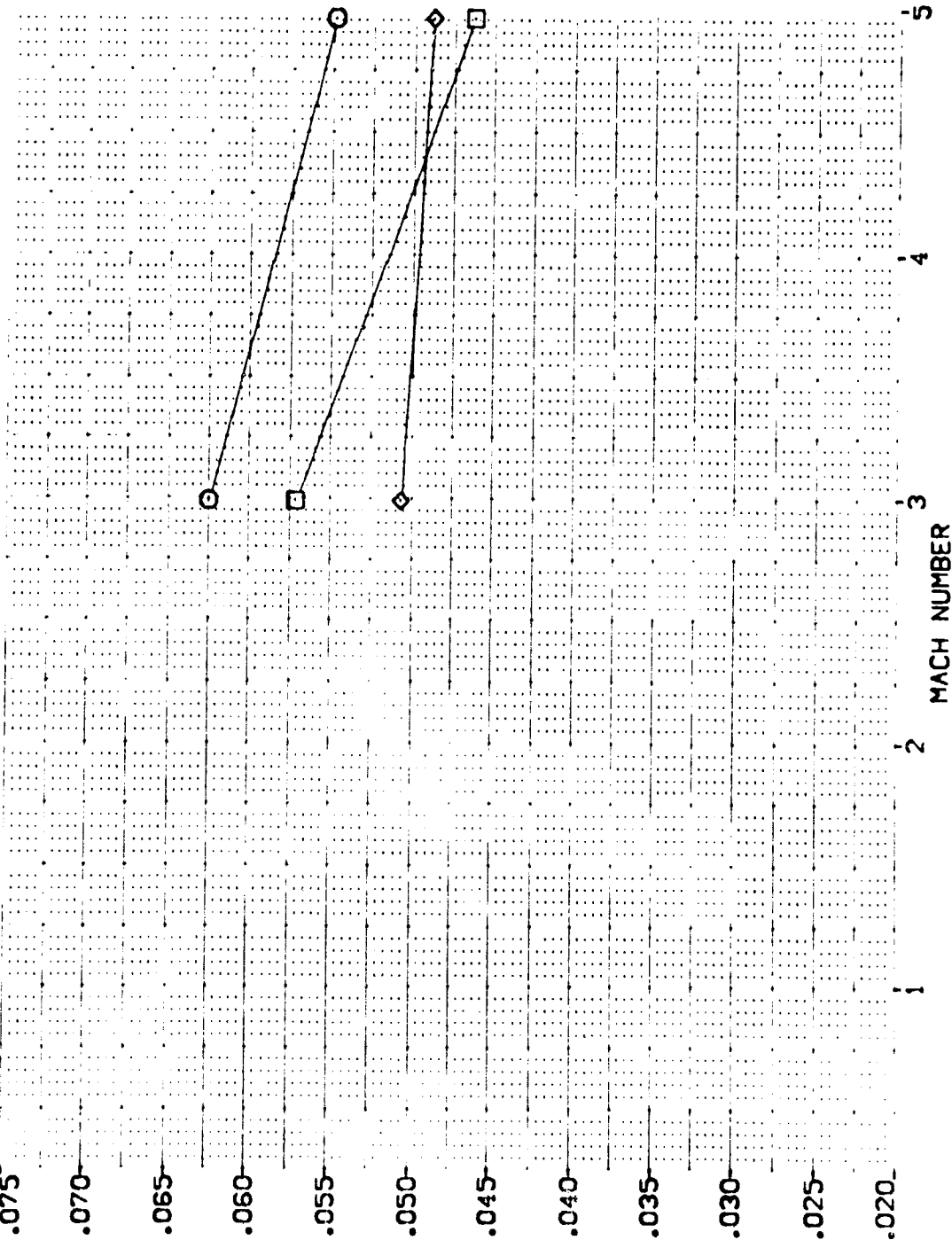
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(CJALPHA = 30.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPDRBK	ALLCON	REFERENCE INFORMATION
(522301)	MSFC 531(2A19) 053 34-0 (BOFH) (VE)(VR)	-33.650	-11.700	25.550	-0.320	SREF 2741.8000 SQ. FT
(522302)	MSFC 531(2A19) 053 34-0 (BOFH) (VE)(VR)	-23.810	-11.700	25.550	-0.240	LREF 481.6480 IN.
(522303)	MSFC 531(2A19) 053 34-0 (BOFH) (VE)(VR)	-15.550	-11.700	25.550	-0.400	BREF 936.7000 IN.
						XMRP 1081.3500 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)ALPHA = 35.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
{S92801}	MSFC 581 {0A49} 0FB 3A-0 {BDCH} {VE}{VR}
{S93101}	MSFC 581 {0A49} 0FB 3A-0 {BDCH} {VE}{VR}
{S93102}	MSFC 581 {0A49} 0FB 3A-0 {BDCH} {VE}{VR}

DATA SET SYMBOL: 581(0419) ORB 34-0 (BOCH) (VE)(VR)
 {581117} MSFC 581(0419) ORB 34-0 (BOCH) (VE)(VR)
 {581202} MSFC 581(0419) ORB 34-0 (BOCH) (VE)(VR)

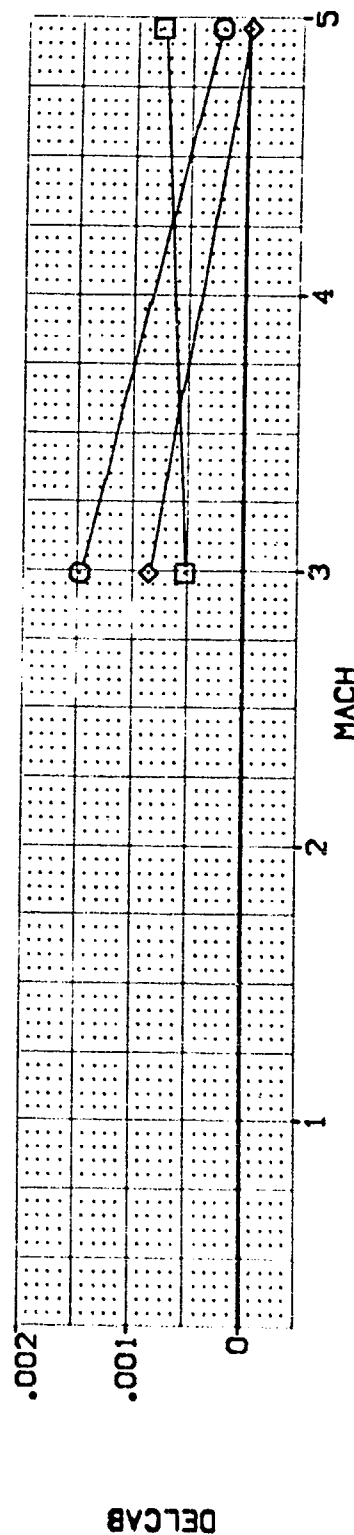
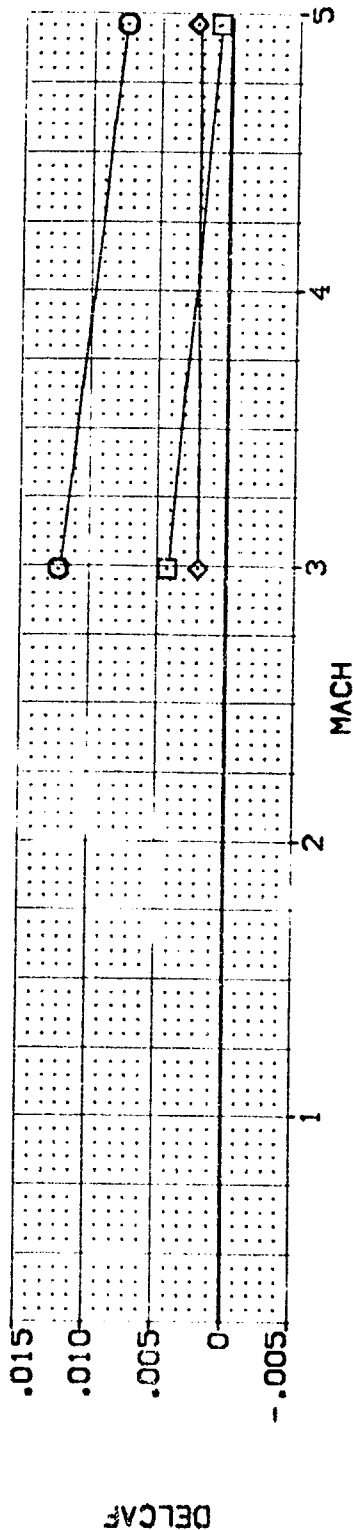
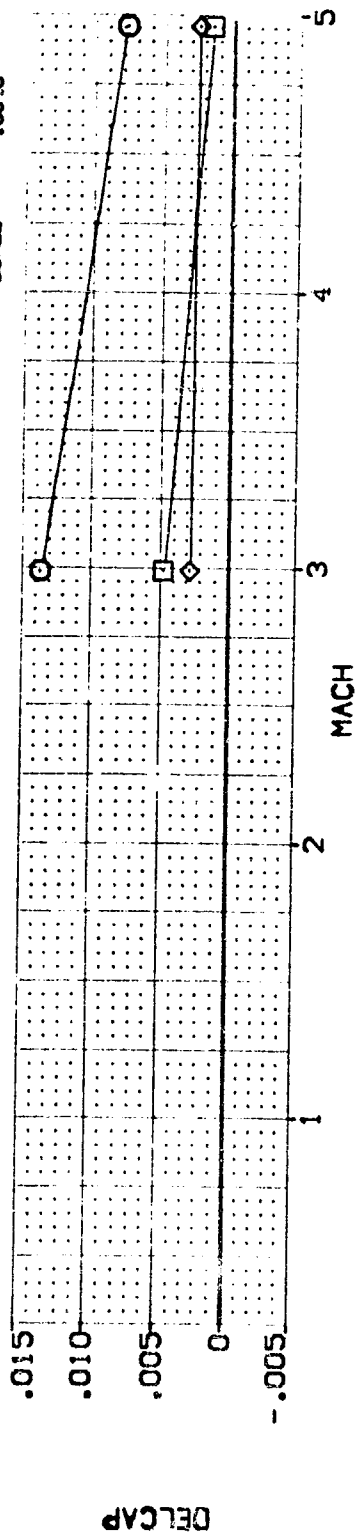
DELEVR: -23.650
 -23.840
 -15.550

BOFLAP: -11.700
 -11.700
 -11.700

SPDRBK: 25.550
 25.550
 25.550

AILRON: -.320
 -.240
 -.400

REFERENCE INFORMATION
 SREF: 2741.8000 SQ. FT.
 LREF: 481.6480 IN.
 BREF: 936.7000 IN.
 XMRP: 1081.3500 IN.
 YMRP: .0000 IN.
 ZMRP: .0000 IN.
 SCALE: .0040



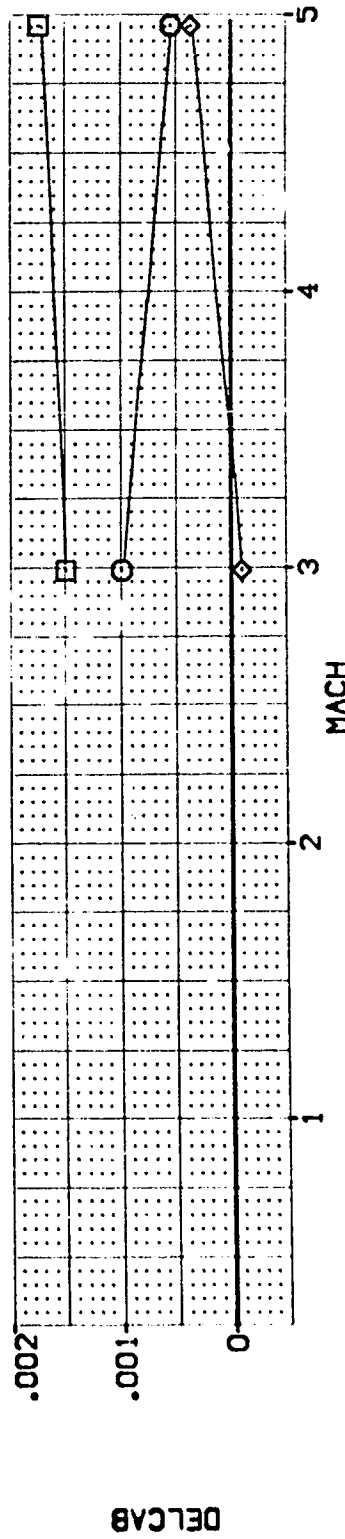
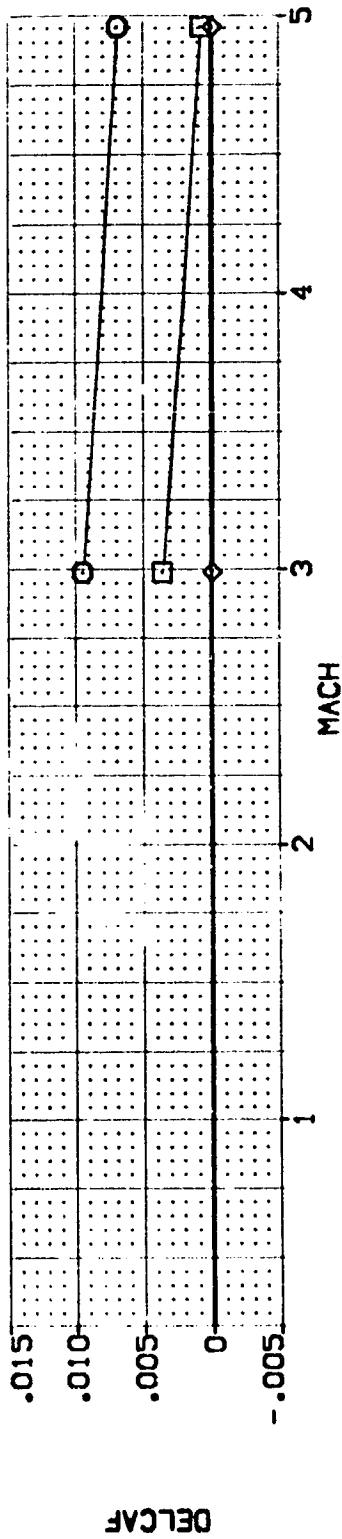
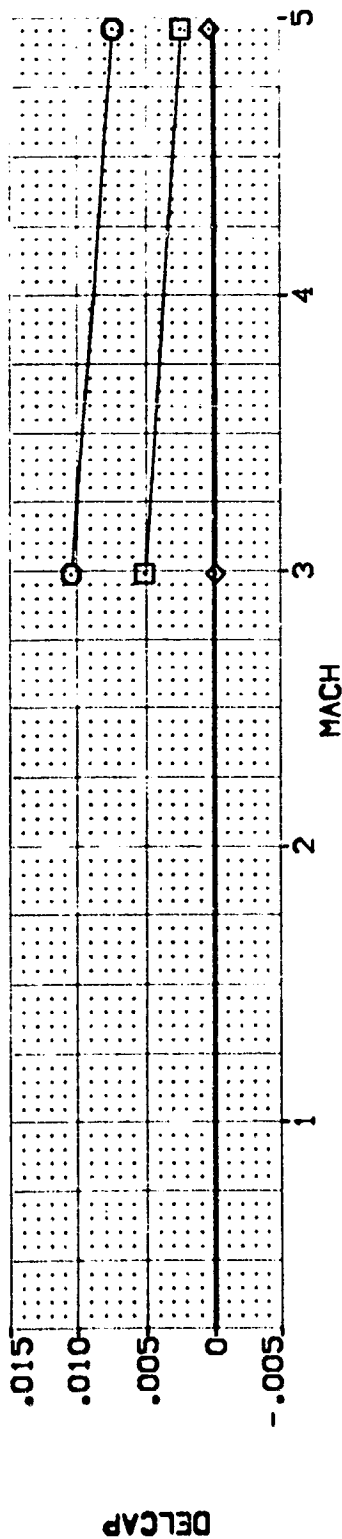
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

CALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {592801} MSFC 581(OA49) DB 3A-O (BOFM) (VE)(VR)
 {592802} MSFC 581(OA49) DB 3A-O (BOFM) (VE)(VR)
 {592802} MSFC 581(OA49) DB 3A-O (BOFM) (VE)(VR)

DELEVR BCFLAP SPOBRK ALLRON
 -33.650 -11.700 23.550 -320
 -23.840 -11.700 23.550 -240
 -15.550 -11.700 23.550 -400

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



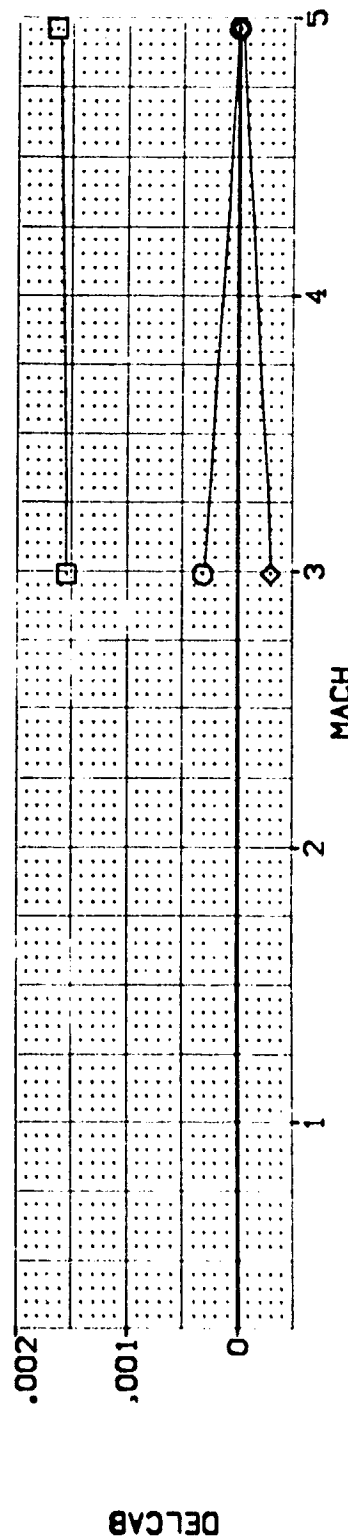
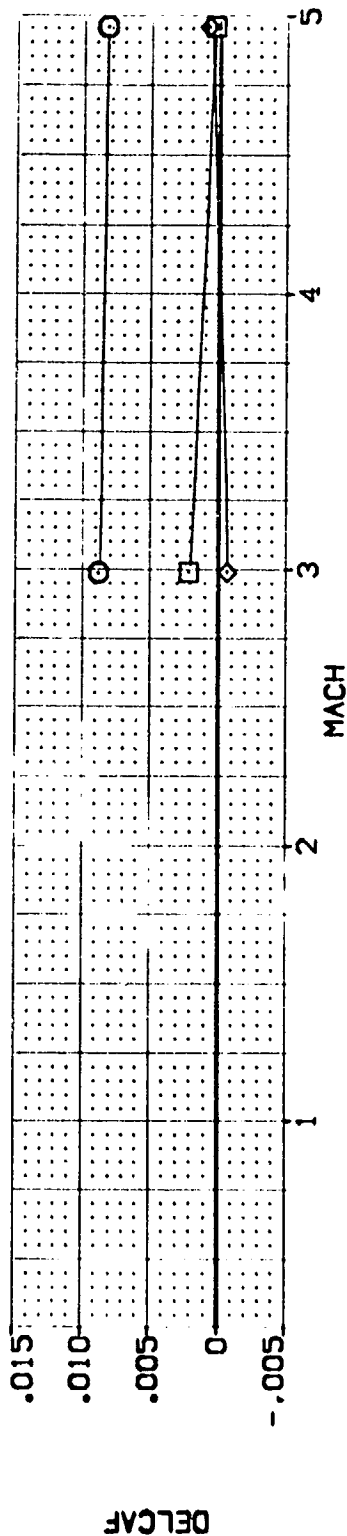
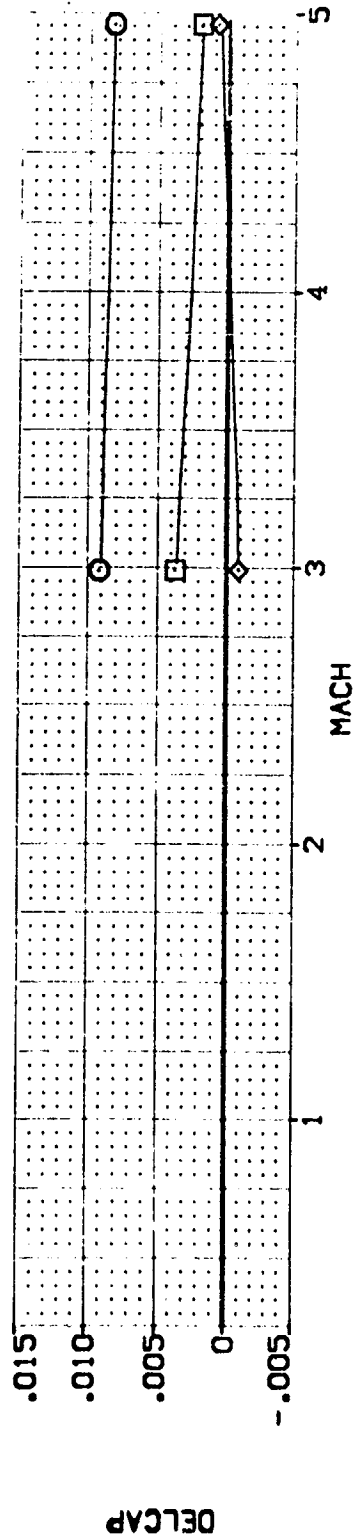
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 25.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPOBRK	AILERON	SREF	7741	8000	50	FT
{592801}	HSC 581(0A19) 0RB 34-0 (BOTH) (VE)(VR)	-39.650	-11.700	25.550	-320	LREF	481	6480	IN	
{593117}	HSC 581(0A19) 0RB 34-0 (BOTH) (VE)(VR)	-23.840	-11.700	25.550	-240	BREF	936	7000	IN	
{592802}	HSC 581(0A19) 0RB 34-0 (BOTH) (VE)(VR)	-15.550	-11.700	25.550	-400	XREF	1081	3500	IN	
						YREF		.0000	IN	
						ZREF		.0000	IN	
						SCALE		.0040		



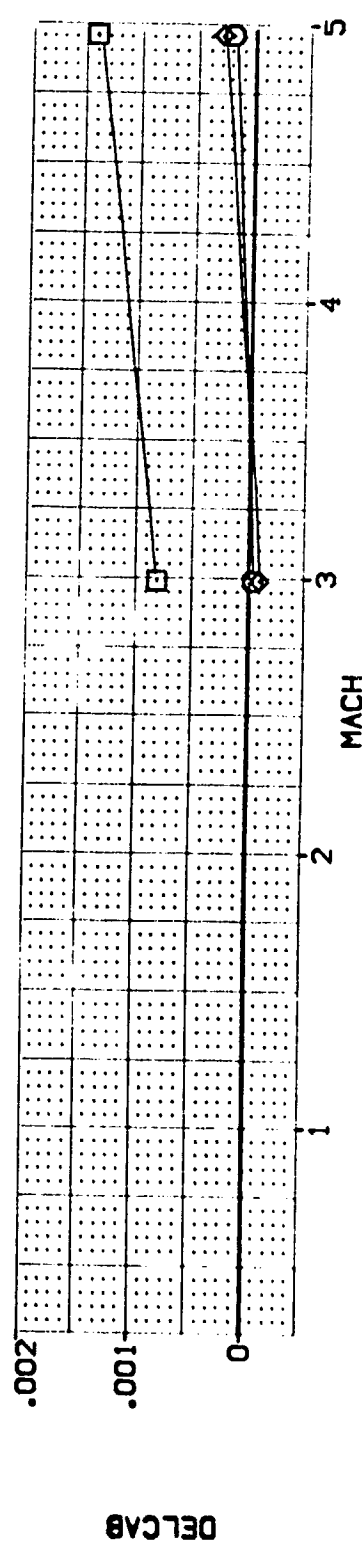
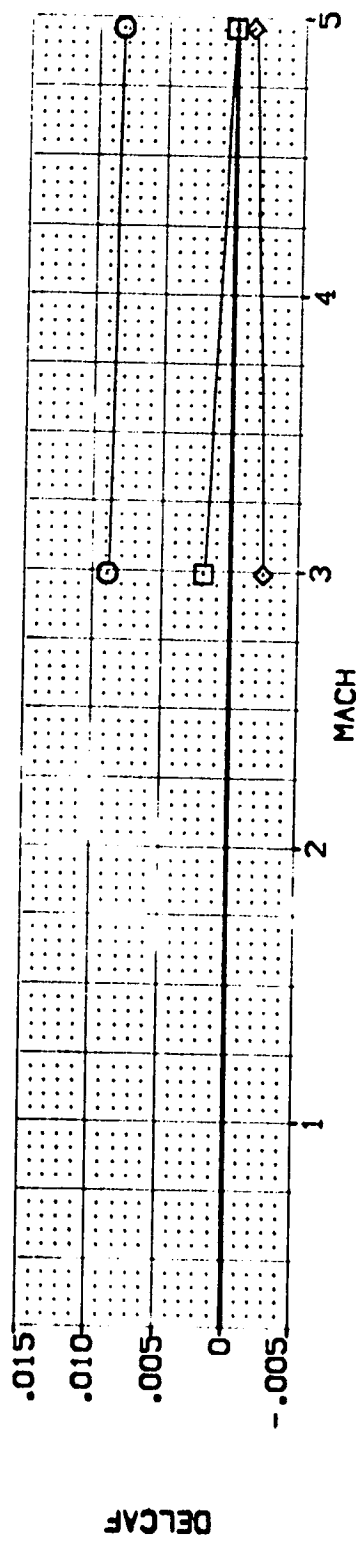
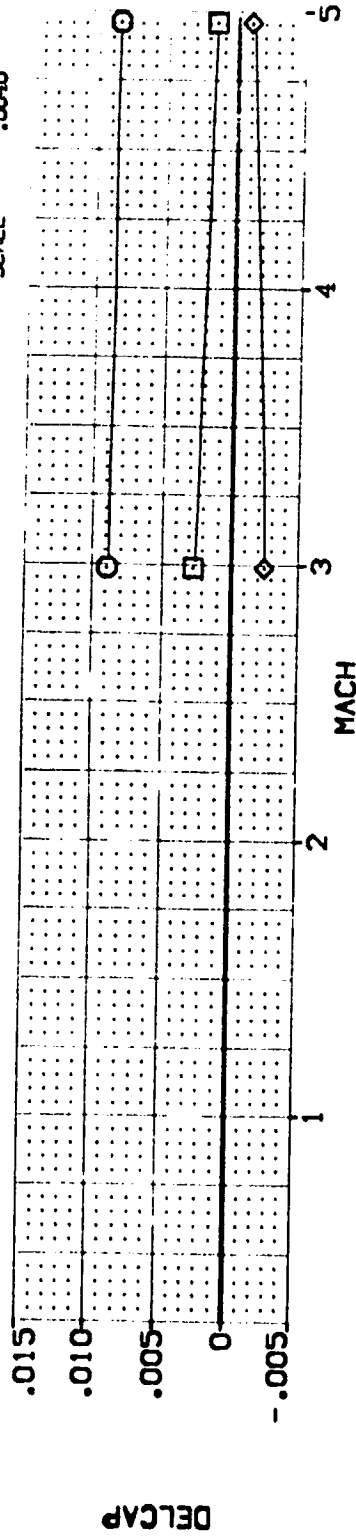
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C) ALPHA = 30.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (502801) (502801) (502801) (502801) (502801) (502801)
 (502802) (502802) (502802) (502802) (502802) (502802)

DELEVR BOFLAP SPOBRK AILRON
 -33.650 -11.700 25.550 -320
 -23.840 -11.700 25.550 -240
 -15.550 -11.700 25.550 -400

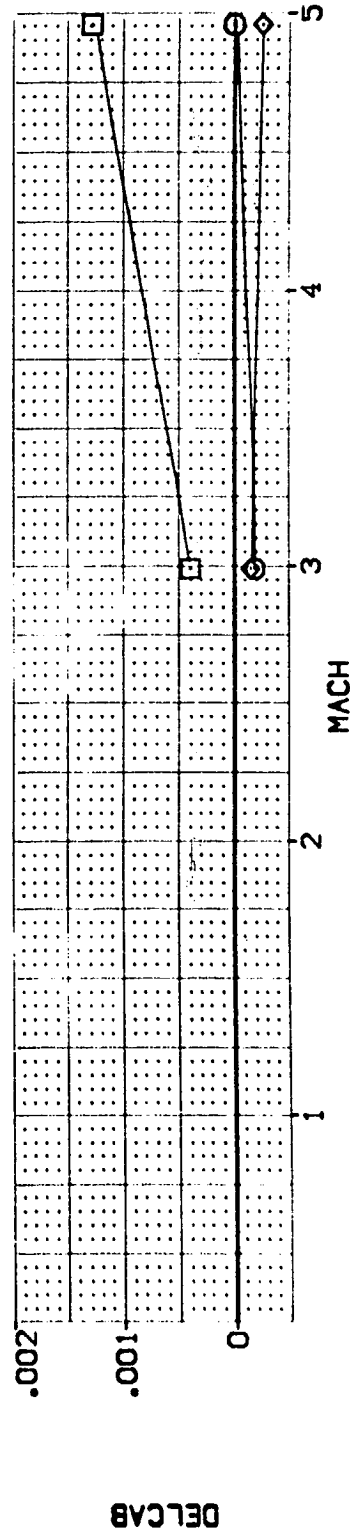
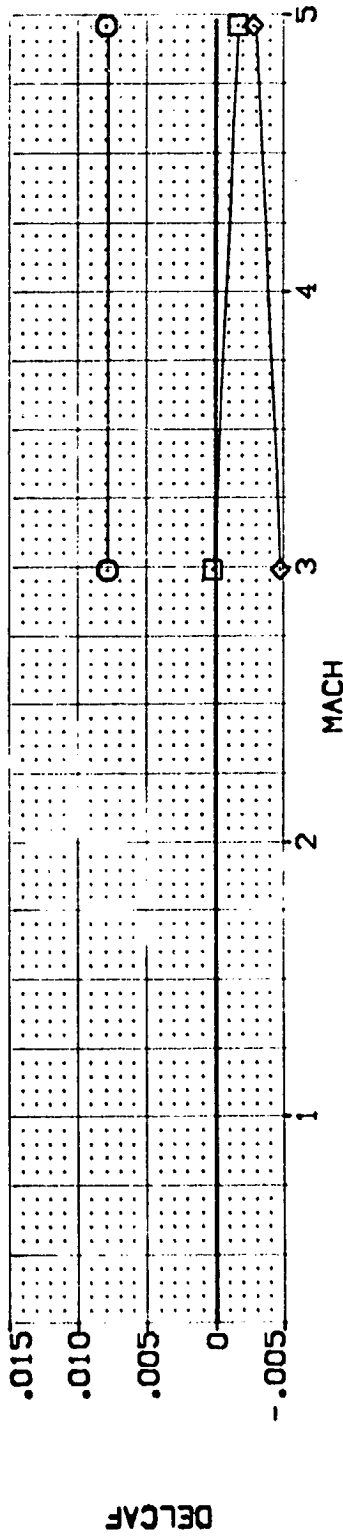
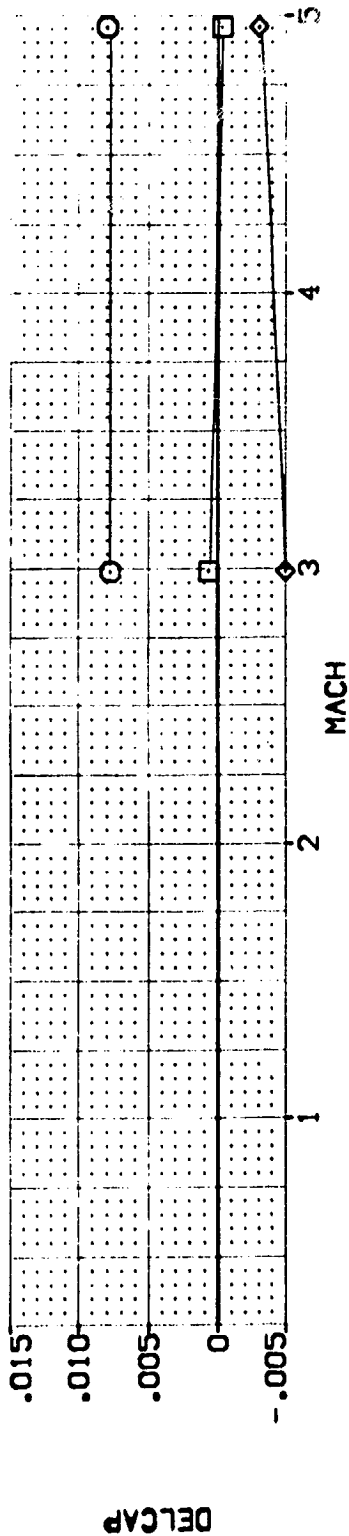
REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D) ALPHA = 35.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDFLAP	SPDRBY	AIRLON	REFERENCE INFORMATION
(592801)	MSFC 581(0A19) 098 34-0 (BCFM) (VE)(VR)	-39.650	-11.700	25.550	-320	SREF 2741.8000 SQ. FT
(592817)	MSFC 581(0A19) 098 34-0 (BCFM) (VE)(VR)	-23.840	-11.700	25.550	-240	LREF 481.6480 IN.
(592802)	MSFC 581(0A19) 098 34-0 (BCFM) (VE)(VR)	-15.550	-11.700	25.550	-400	BREF 936.7000 IN.
						XMRP 1081.3900 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040

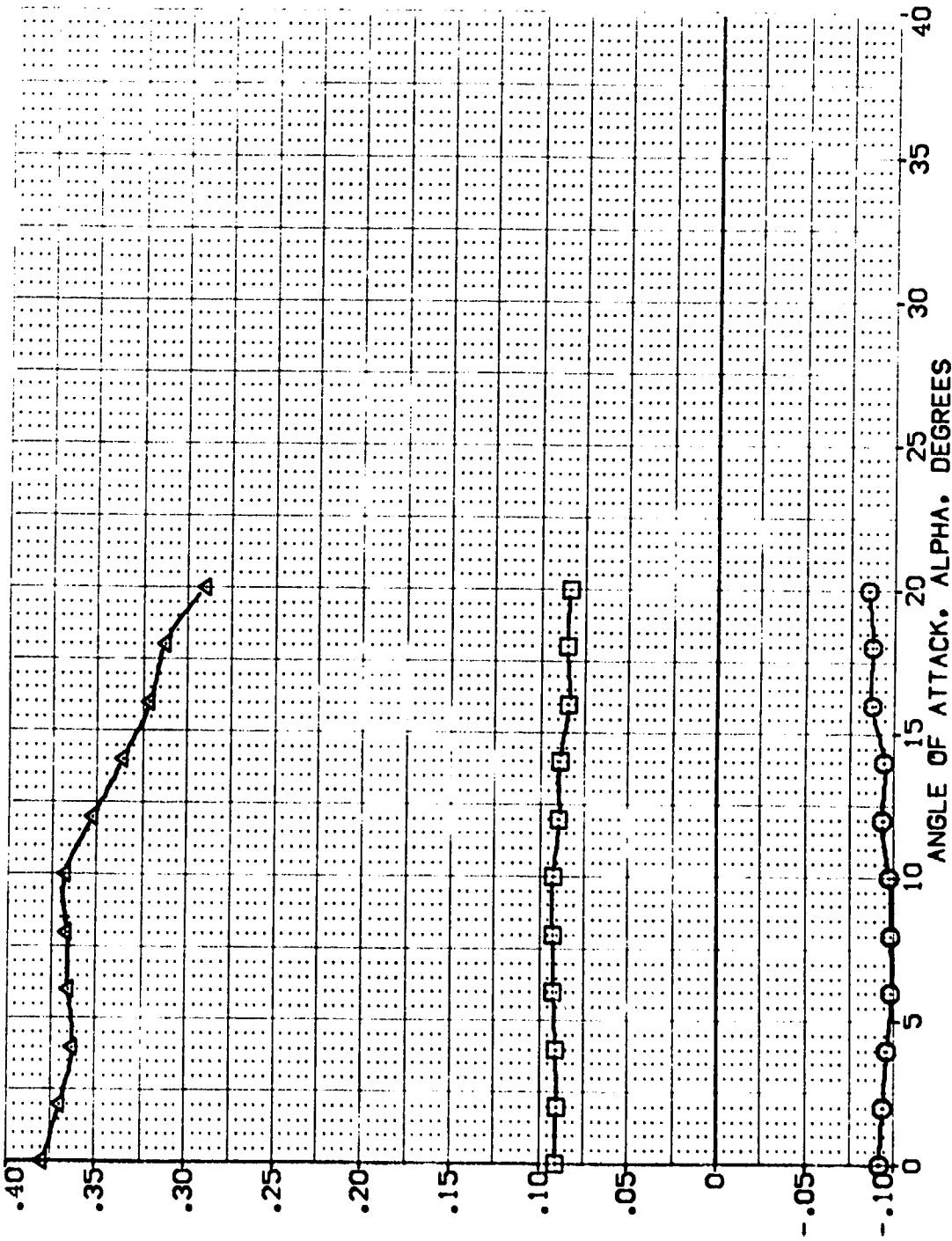


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)ALPHA = 40.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(H92003)	MSFC 581(CA49) CRB 34-0 (BOFM) (VE)(VR)	-4.310	-11.700	25.550	-6.300	SREF 2741.8000 SD: FT
(H92004)	MSFC 581(CA49) CRB 34-0 (BOFM) (VE)(VR)	4.160	-11.700	25.550	-6.700	LREF 481.6480 IN:
(H92107)	DATA NOT AVAILABLE	13.130	-11.700	25.550	-6.500	BREF 936.7000 IN:
(H92005)	MSFC 581(CA49) CRB 34-0 (BOFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	XREF 1081.3900 IN:
						YREF .0000 IN:
						ZREF .0000 IN:
						SCALE .0040



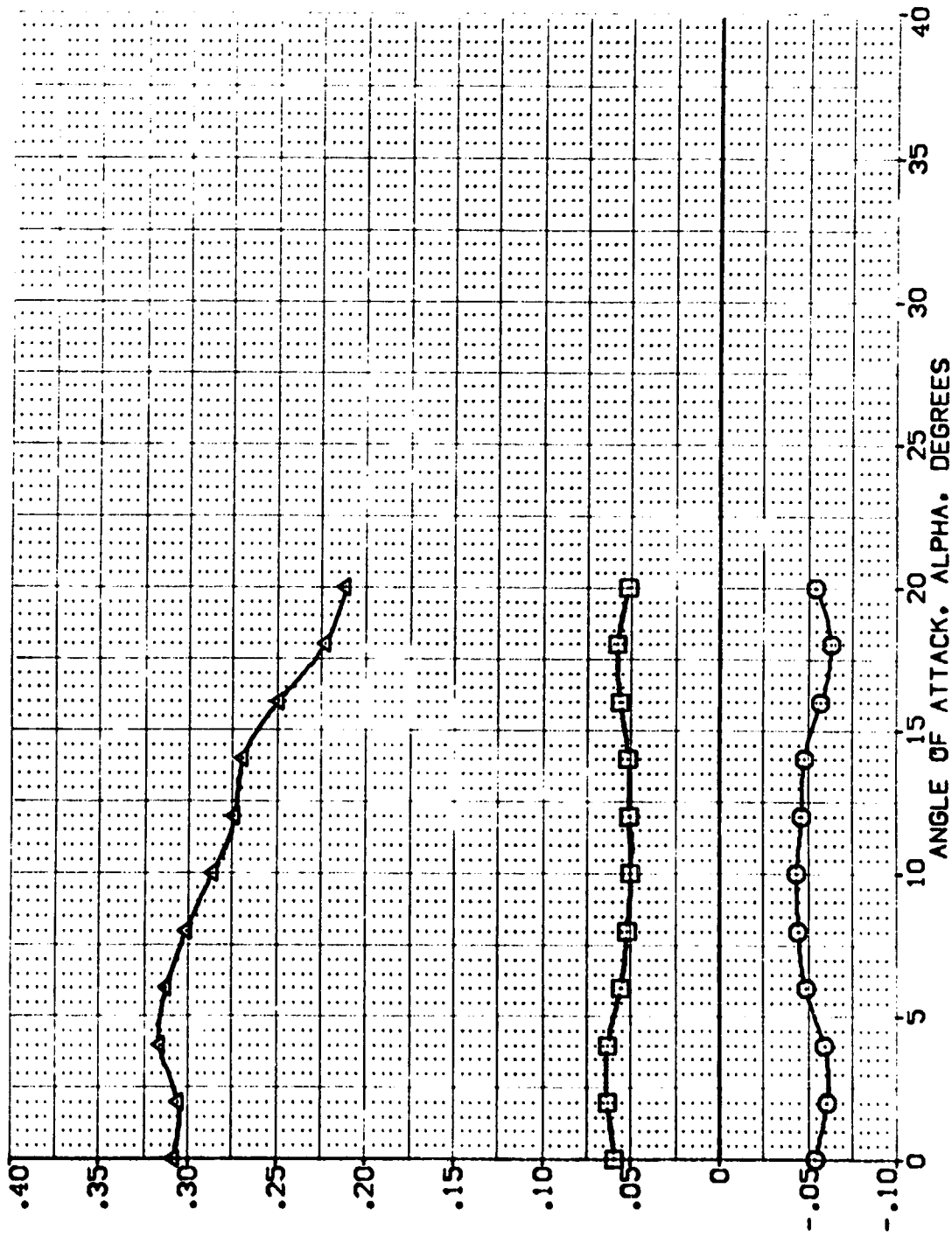
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A)MACH = .59



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
[H2003]	HSFC 581(0A49) ORB 34-0 (BOFH) [VE](VR)	-4.310	-11.700	25.550	-630	SREF 2741.8000 50. FT
[H2004]	HSFC 581(0A49) ORB 34-0 (BOFH) [VE](VR)	4.160	-11.700	25.550	-670	LREF 481.6480 IN.
[H2107]	DATA NOT AVAILABLE	13.130	-11.700	25.550	-650	BREF 936.7000 IN.
[H2005]	HSFC 581(0A49) ORB 34-0 (BOFH) [VE](VR)	16.750	-11.700	25.550	-1.680	XMRP 1081.3900 IN.
					7MRP .0000 IN.	YMRP .0000 IN.
					SCALE .0040	



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

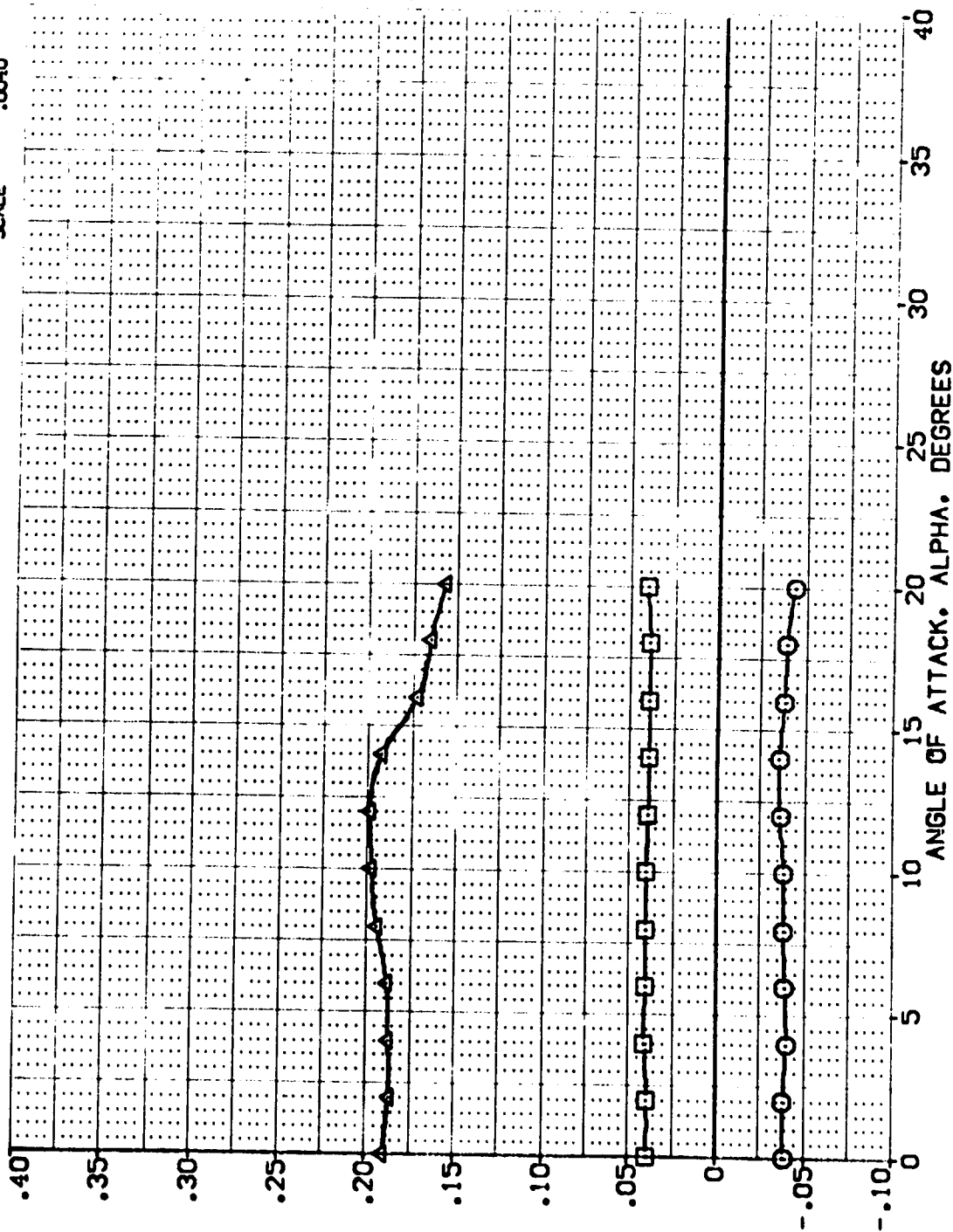
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[M2003] MSFC 581(0A49) ORB 34-0 (BOFH) (VE)(VR)
 [M2004] MSFC 581(0A49) ORB 34-0 (BOFH) (VE)(VR)
 [M2107] DATA NOT AVAILABLE
 [M2005] MSFC 581(0A49) ORB 34-0 (BOFH) (VE)(VR)

DELEVR -4.310
 BOFLAP -11.700
 SPDBRK 25.550
 AILRON -0.630
 REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.2800 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



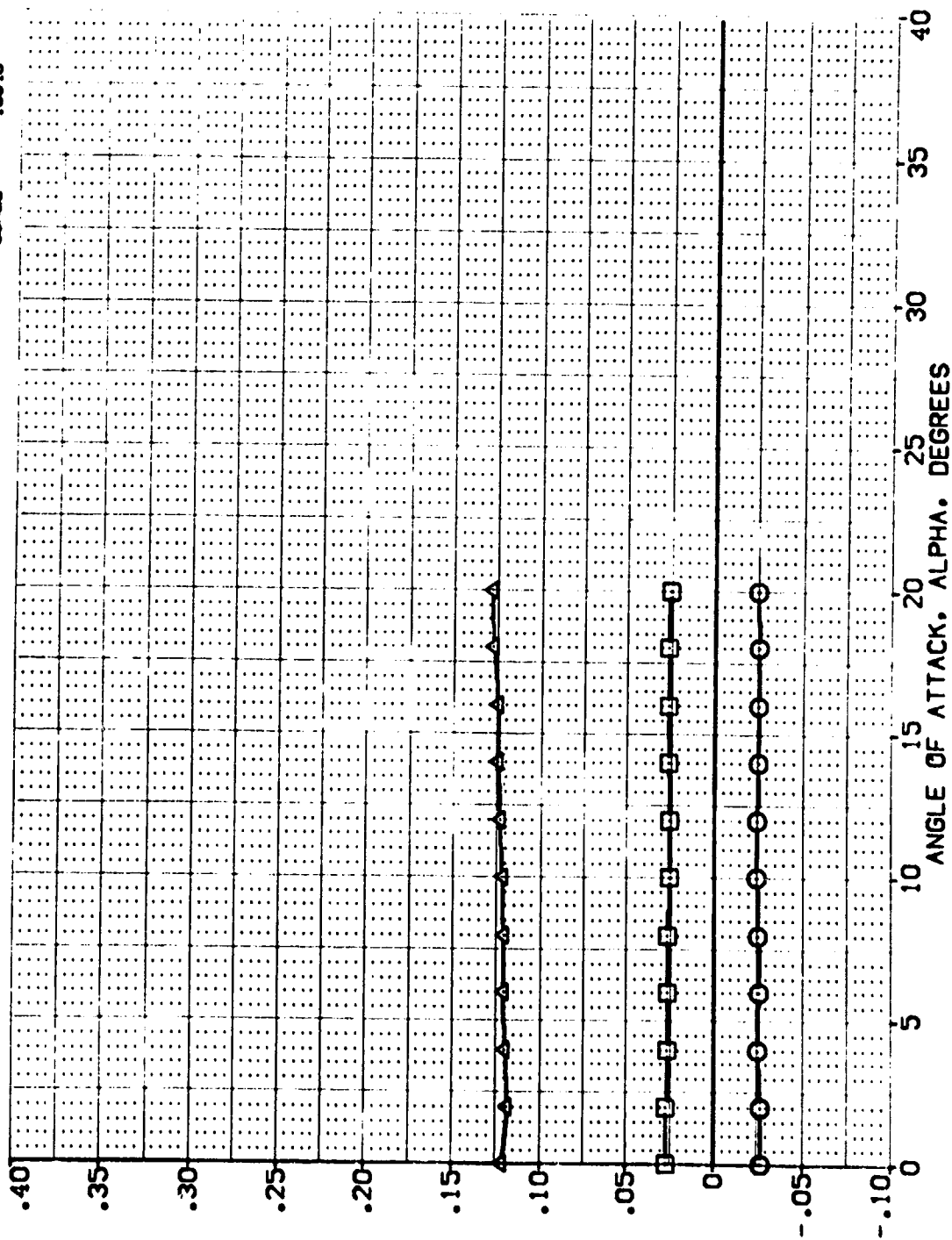
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPDBRK	AILRON	REFERENCE INFORMATION
H2003	H2FC 581(0A49) DB 34-0 (BOTH)	-4.310	-11.700	25.550	-1.630	SREF 2741.8000 SQ. FT
H2004	H2FC 581(0A49) DB 34-0 (BOTH)	4.160	-11.700	25.550	-1.670	LREF 481.6480 IN.
H2107	DATA NOT AVAILABLE	13.130	-11.700	25.550	-1.650	BREF 936.7000 IN.
H22005	H2FC 581(0A49) DB 34-0 (BOTH)	16.790	-11.700	25.550	-1.680	YREF 1081.3500 IN.
						ZREF .0000 IN.
						SCALE .0040



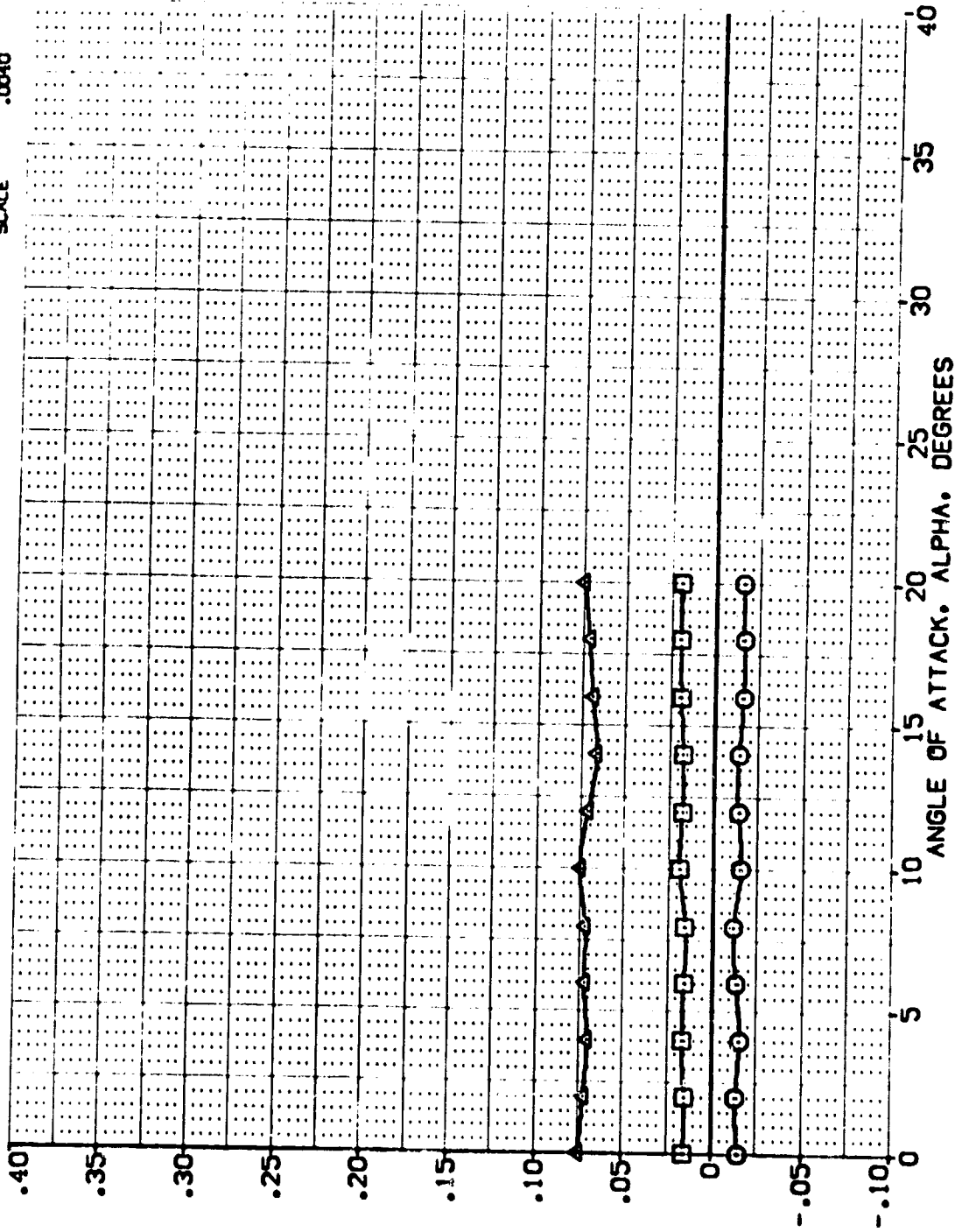
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D)MACH = 1.46

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (H82003) H82C 581(DA49) 078 34-0 (BDN) (VE)(VR)
 (H82004) H82C 581(DA49) 078 34-0 (BDN) (VE)(VR)
 (H82107) DATA NOT AVAILABLE
 (H82005) H82C 581(DA49) 078 34-0 (BDN) (VE)(VR)

DELEVR BDFLAP SPOBRK AILRON REFERENCE INFORMATION
 -4.310 -11.700 25.950 -1.630 SREF 2741.8000 SQ. FT
 4.160 -11.700 25.950 -1.670 LREF 481.6480 IN.
 13.130 -11.700 25.950 -1.650 BRREF 936.7000 IN.
 16.790 -11.700 25.950 -1.680 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

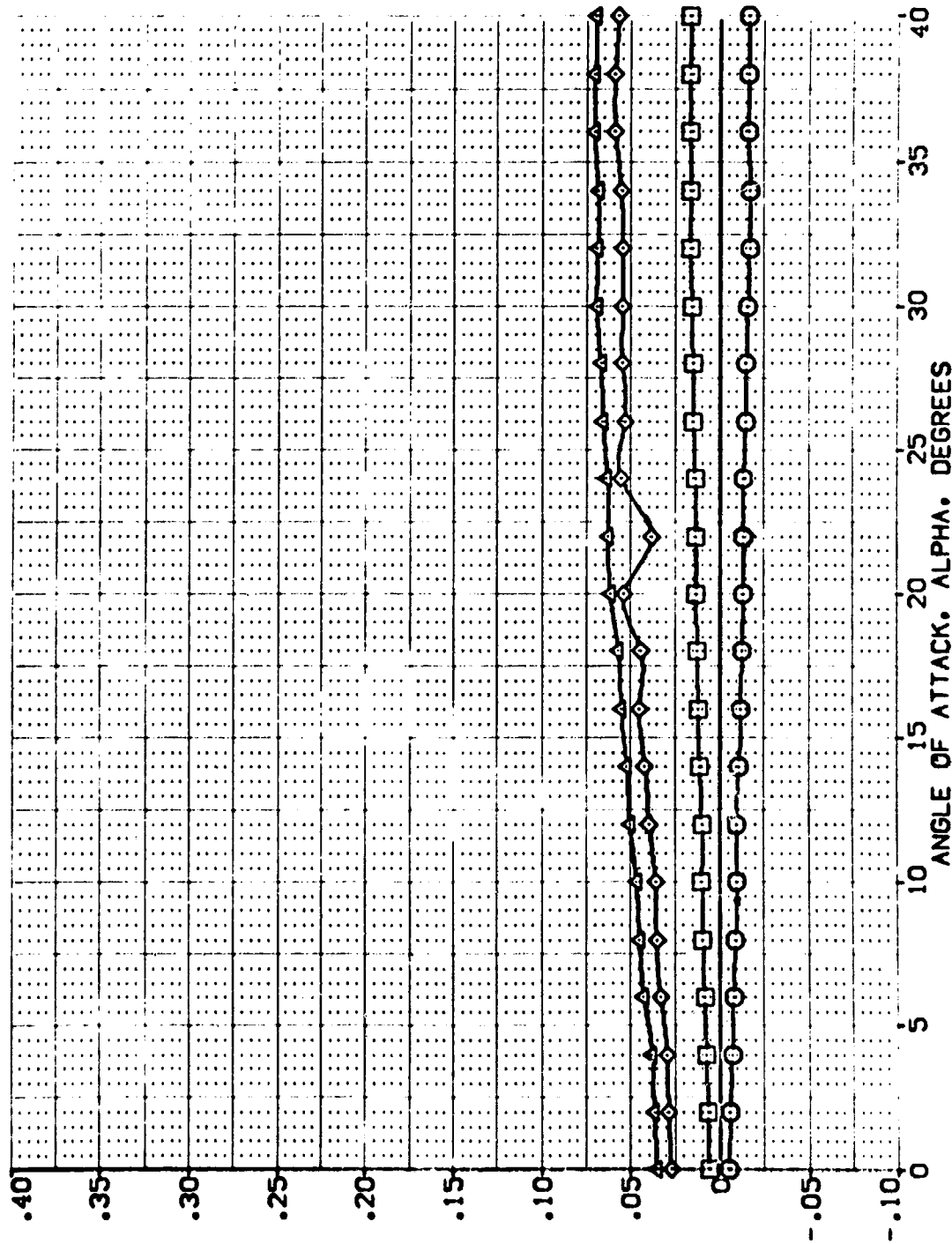


INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)MACH = 1.95

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDCLAP	SPDRBK	ALLRON	REFERENCE INFORMATION
(H2000)	H2C 50(0A4S) 000 3A-0 (BDFM) (VE)(VR)	-4.310	-11.700	25.550	-520	SREF 2741.8000 SQ. FT
(H2004)	H2C 50(0A4S) 000 3A-0 (BDFM) (VE)(VR)	4.160	-11.700	25.550	-670	LREF 481.6480 IN.
(H2107)	H2C 50(0A4S) 000 3A-0 (BDFM) (VE)(VR)	13.130	-11.700	25.550	-620	BREF 936.7000 IN.
(H2205)	H2C 50(0A4S) 000 3A-0 (BDFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	XREF 1081.3500 IN.
						YREF .0000 IN.
						ZREF .0040 IN.
						SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(F)MACH = 2.99

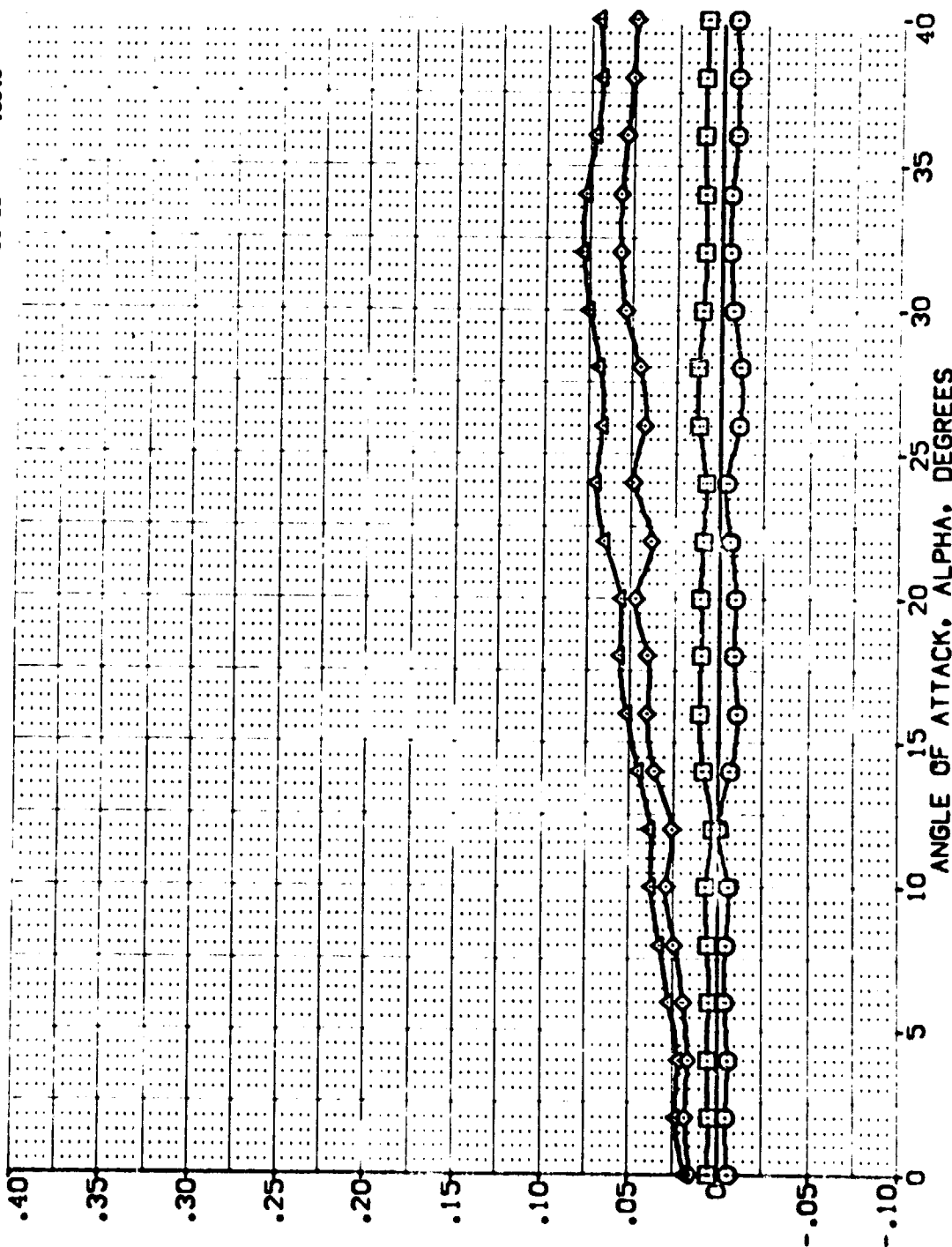
PAGE 277

DATA SET SYMBOL
 (H57003)
 (H57004)
 (H57107)
 (H57005)

CONFIGURATION DESCRIPTION
 H57C 581(0449) 079 34-0 (BDTH) (VE)(VR)
 H57C 531(0449) 079 34-0 (BDTH) (VE)(VR)
 H57C 581(0449) 079 34-0 (BDTH) (VE)(VR)
 H57C 581(0449) 079 34-0 (BDTH) (VE)(VR)

DELEV R BDFLAP SPOBRK AILRON
 -4.310 -11.700 25.550 -1.530
 4.160 -11.700 25.550 -1.570
 13.130 -11.700 25.550 -1.630
 16.730 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



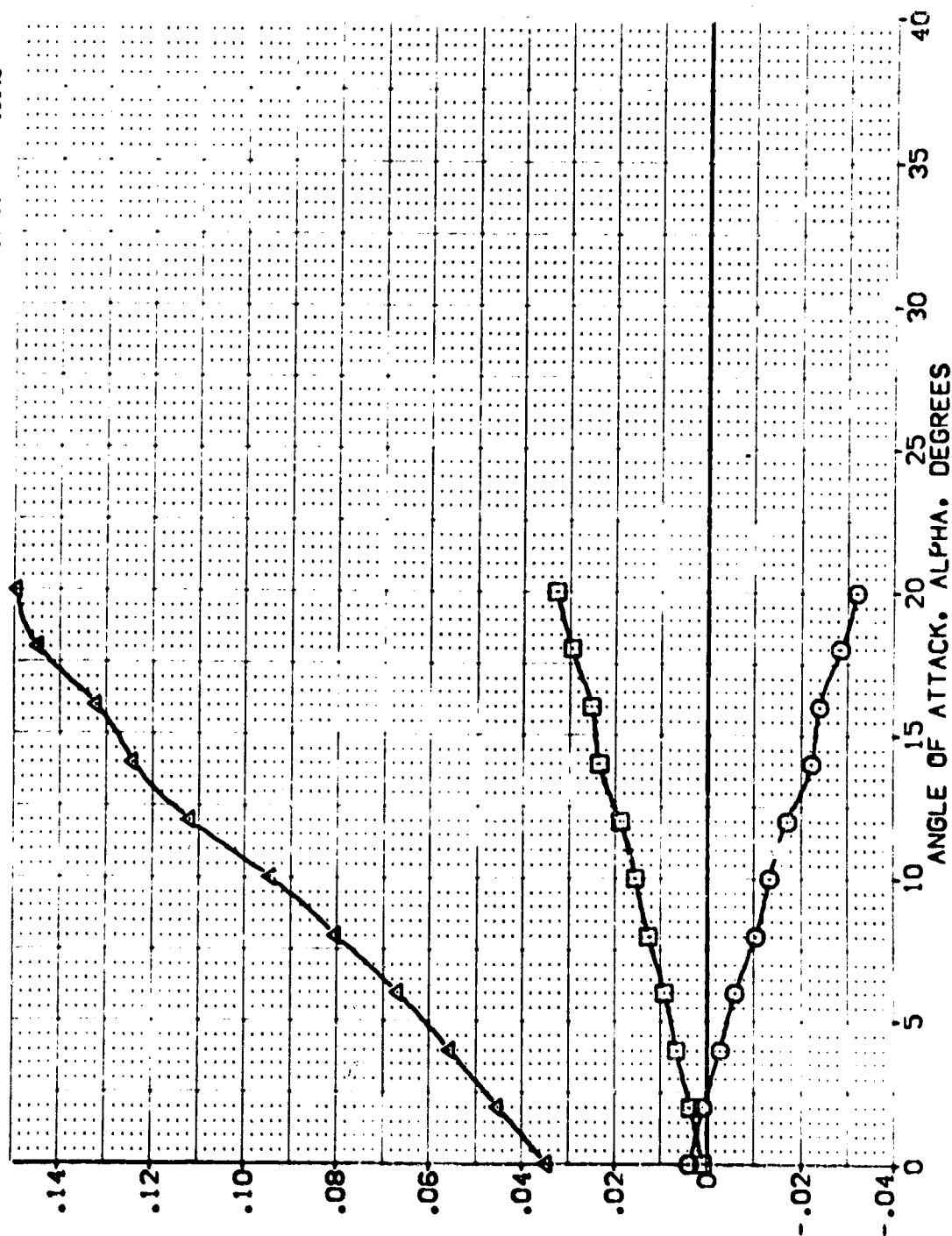
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(G)MACH = 4.96

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION:  REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPDRBK	AILRON	REFERENCE INFORMATION
MSFC 581(0A49) DBB 34-0 (BOTH)	MSFC 581(0A49) DBB 34-0 (BOTH)	-4.310	-11.700	25.550	-0.630	SREF 2741.8000 SQ. FT
MSFC 581(0A49) DBB 34-0 (BOTH)	MSFC 581(0A49) DBB 34-0 (BOTH)	4.160	-11.700	25.550	-0.670	LREF 481.6480 IN.
DATA NOT AVAILABLE	DATA NOT AVAILABLE	13.130	-11.700	25.550	-0.650	BREF 936.7000 IN.
MSFC 581(0A49) DBB 34-0 (BOTH)	MSFC 581(0A49) DBB 34-0 (BOTH)	16.750	-11.700	25.550	-1.680	XREF 1081.3500 IN.
						YREF .0000 IN.
						ZREF .0000 IN.
						SCALE .0040



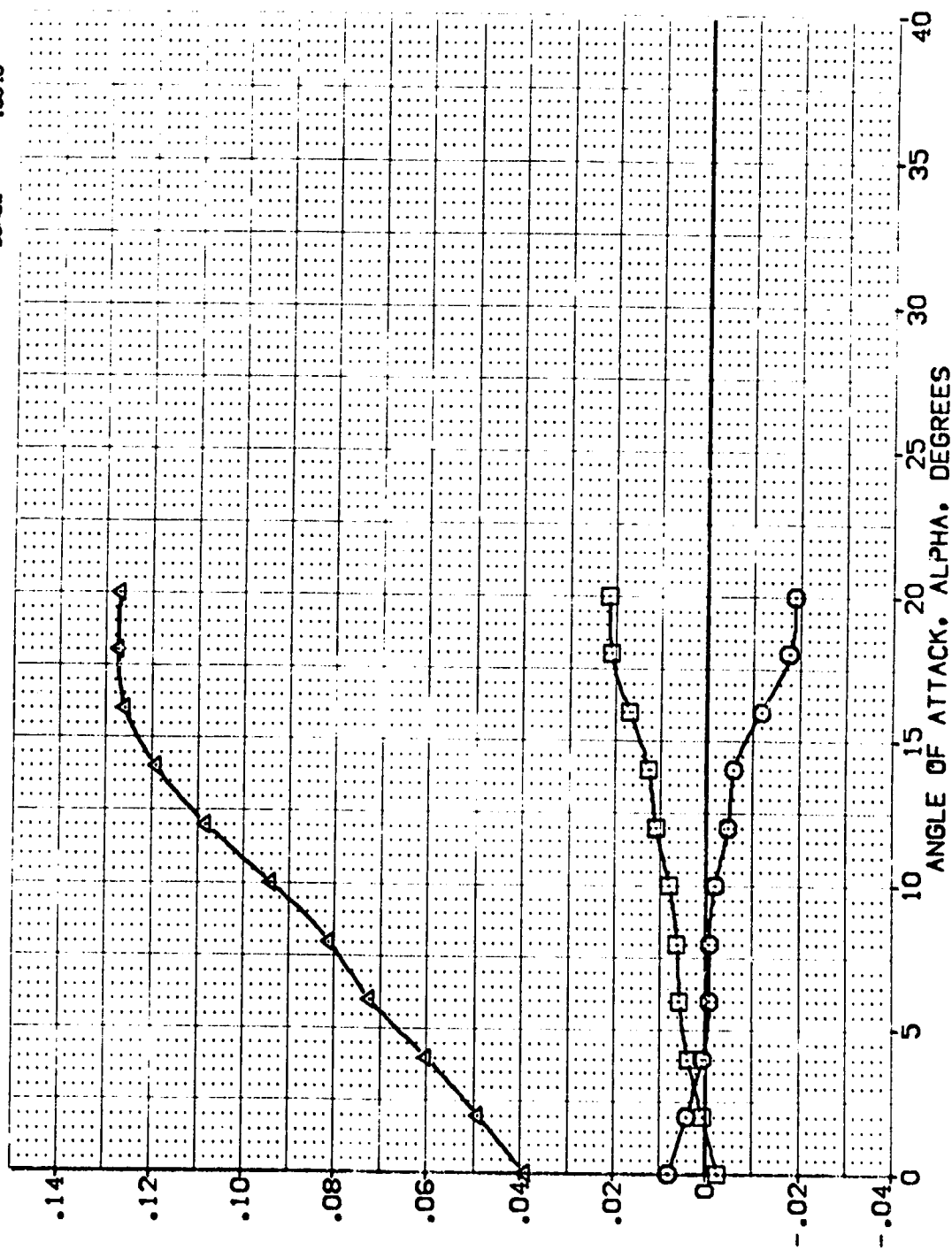
INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(M)MACH = .59

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [162003] MSFC 591 (CA49) ORB 34-0 (BCFH) (VE)(VR)
 [162004] MSFC 591 (CA49) ORB 34-0 (BCFH) (VE)(VR)
 [162107] DATA NOT AVAILABLE
 [162005] MSFC 591 (CA49) ORB 34-0 (BCFH) (VE)(VR)

DELEVR -4.310
 4.160
 13.130
 16.750
 AILRON -.630
 -.670
 -.650
 -1.680
 SPDRBK 25.550
 25.550
 25.550
 25.550
 BDFLAP -11.700
 -11.700
 -11.700
 -11.700
 REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3300 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)MACH = .90

DATA SET SYMBOL:

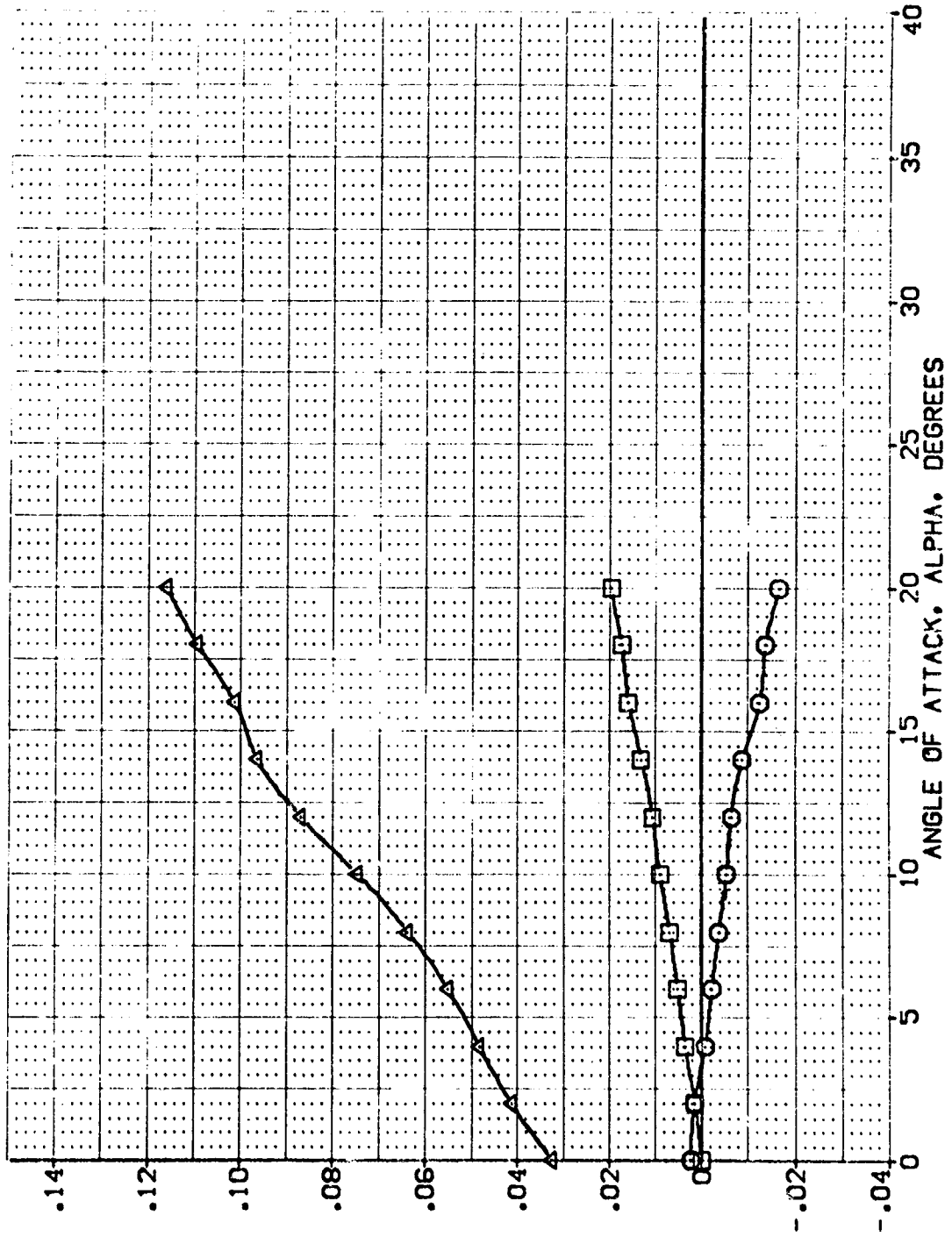
CONFIGURATION DESCRIPTION: MSFC 581 (DA49) 0° 34-0 (BDTH) (VE) (VR) MSFC 581 (DA49) 0° 34-0 (BDTH) (VE) (VR) DATA NOT AVAILABLE MSFC 581 (DA49) 0° 34-0 (BDTH) (VE) (VR)

DELEVR: -4.310 -11.700 -11.700 -11.700 13.130 -11.700 16.730

SPOBRK: 25.550 25.550 25.550 25.550

AILRON: -1.630 -1.670 -1.650 -1.680

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 936.7000 IN. XMRP 1081.3900 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

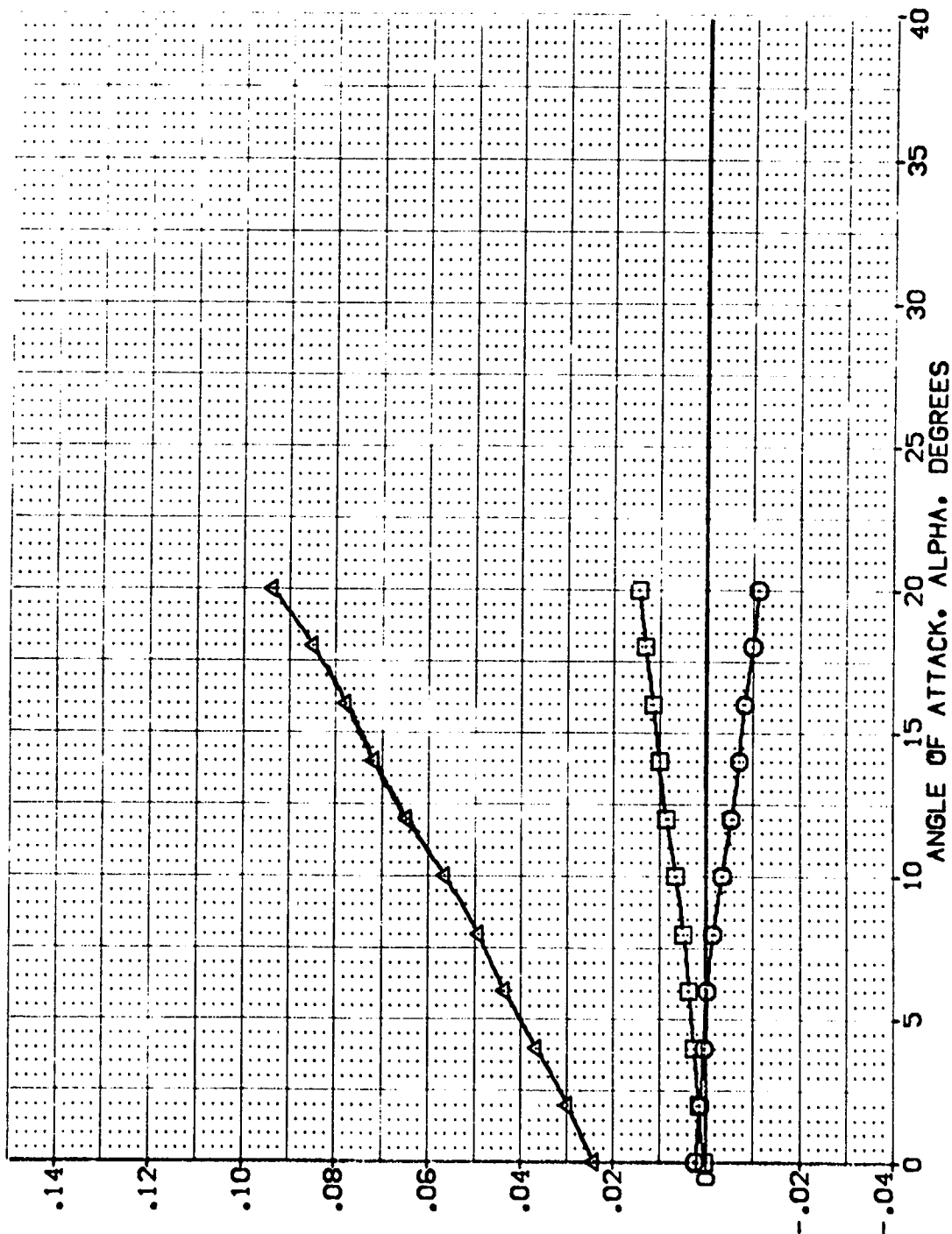
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)MACH = 1.20



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCO

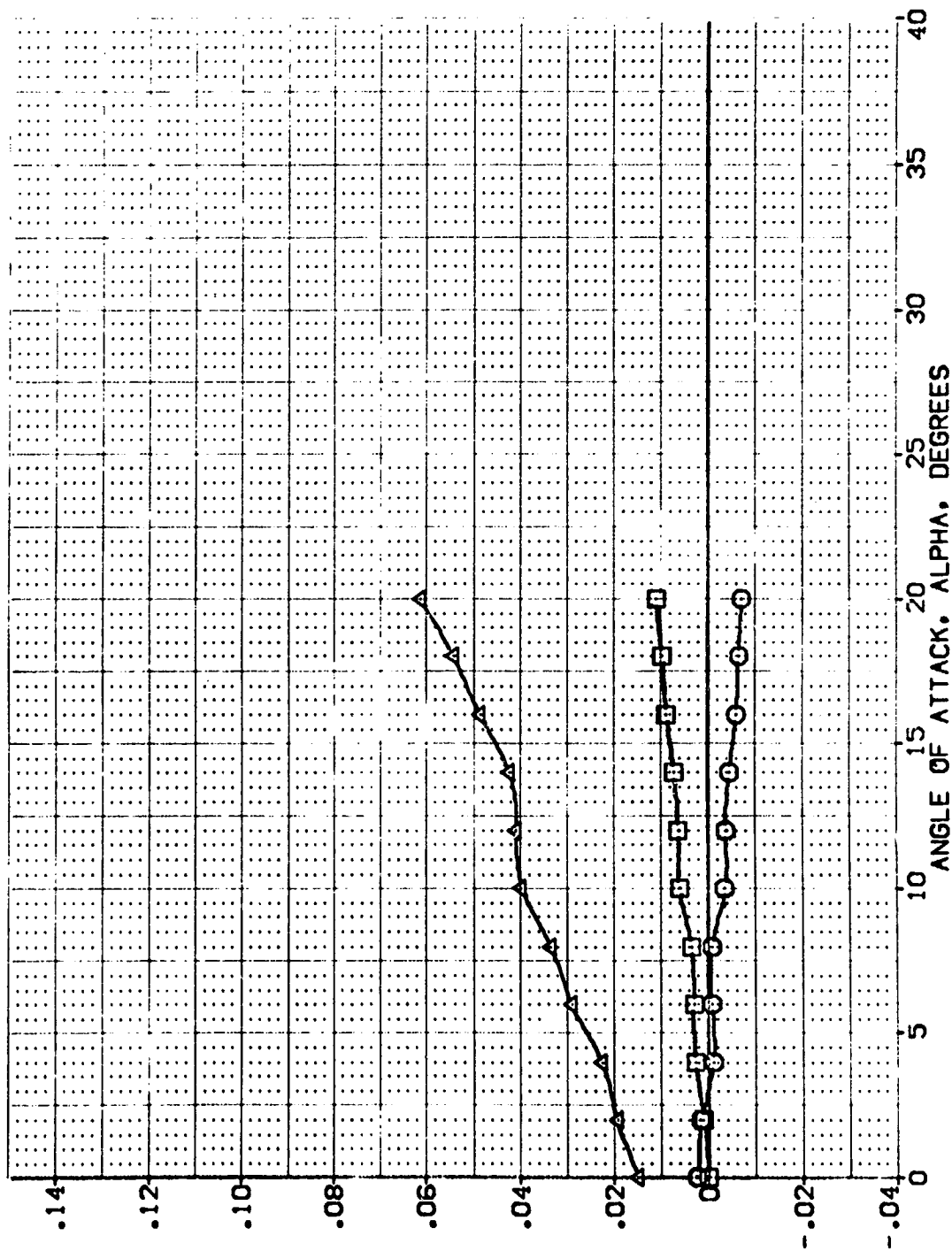
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPDBRK	AILRON	REFERENCE INFORMATION
(H52003)	H5FC 581 (0A19) DRB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-0.630	SREF 2741.8000 SQ. FT
(H52004)	H5FC 581 (0A19) DRB 31-0 (BCFM) (VE)(VR)	4.160	-11.700	25.550	-0.670	LREF 481.6480 IN.
(H52107)	DATA NOT AVAILABLE	13.130	-11.700	25.550	-0.650	BREF 936.7000 IN.
(H52003)	H5FC 581 (0A19) DRB 34-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	XMRP 1081.3800 IN.
						ZMRP .0000 IN.
						SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(O)MACH = 1.46

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFI AP	SPOBRK	AILRON	REFERENCE INFORMATION
(H20003)	MSFC 581(0A49) ORB 34-0 (BOFH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	SREF 2741.8000 SQ. FT
(H20004)	MSFC 581(0A49) ORB 34-0 (BOFH) (VE)(VR)	4.160	-11.700	25.550	-0.670	LREF 481.6480 IN.
(H2107)	DATA NOT AVAILABLE	13.130	-11.700	25.550	-0.650	BREF 936.7000 IN.
(H20005)	MSFC 581(0A49) ORB 34-0 (BOFH) (VE)(VR)	16.750	-11.700	25.550	-1.680	XMRP 1081.3900 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)MACH = 1.95

DATA SET SYMBOL CONFIGURATION DESCRIPTION

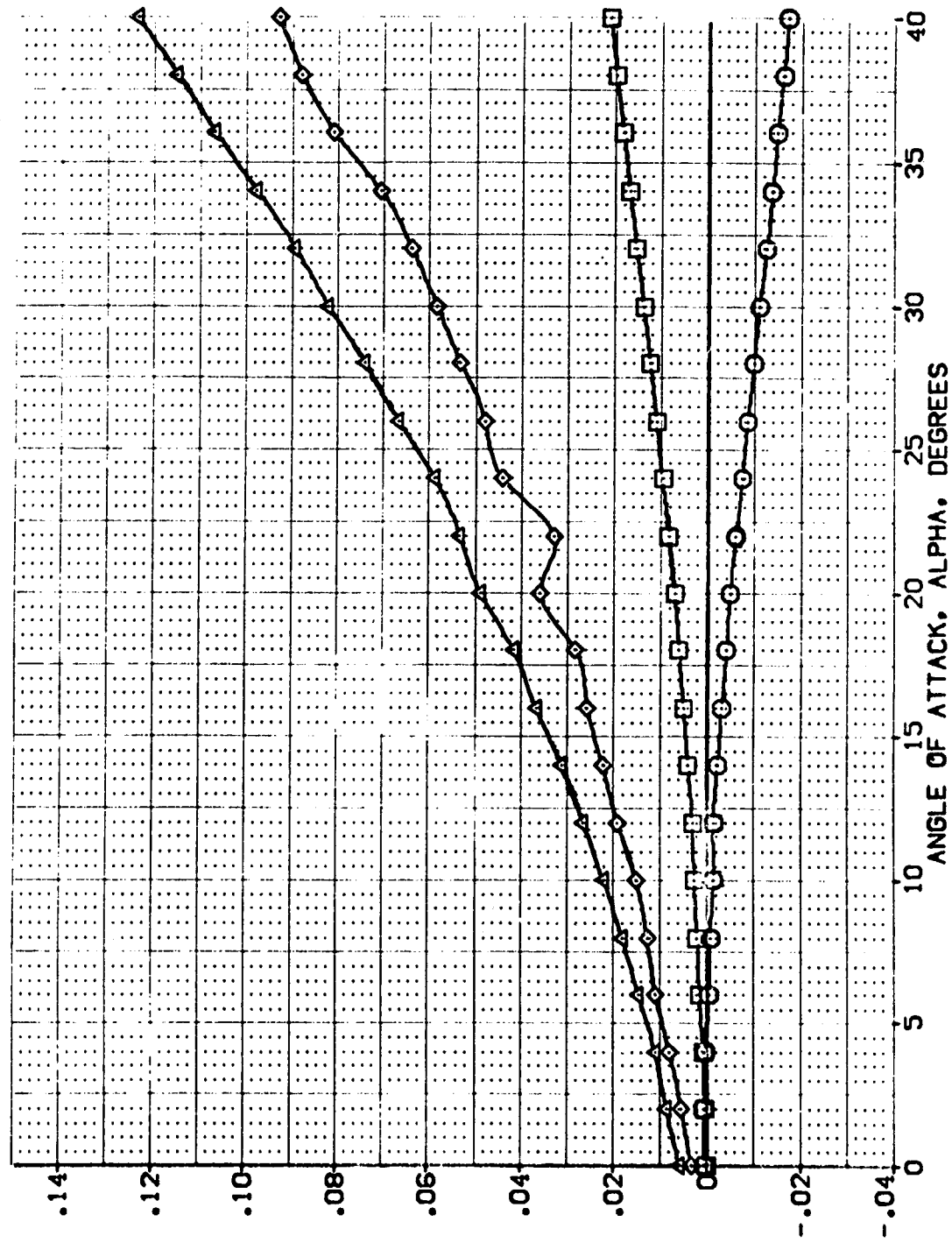
1482003	MSFC S81(CA49) 0R8 34-0 (BCFH) (VE)(VR)
1482004	MSFC S81(CA49) 0R8 34-0 (BCFH) (VE)(VR)
1482107	MSFC S81(CA49) 0R8 34-0 (BCFH) (VE)(VR)
1482005	MSFC S81(CA49) 0R8 34-0 (BCFH) (VE)(VR)

DELEVR BDFLAP SPOBRK ALLRON

-4.310	-11.700	23.550	-1.630
4.160	-11.700	23.550	-1.670
13.130	-11.700	23.550	-1.650
16.790	-11.700	23.550	-1.680

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XMRP	1081.3500	IN.
YMRP	.0000	IN.
SCALE	.0040	IN.



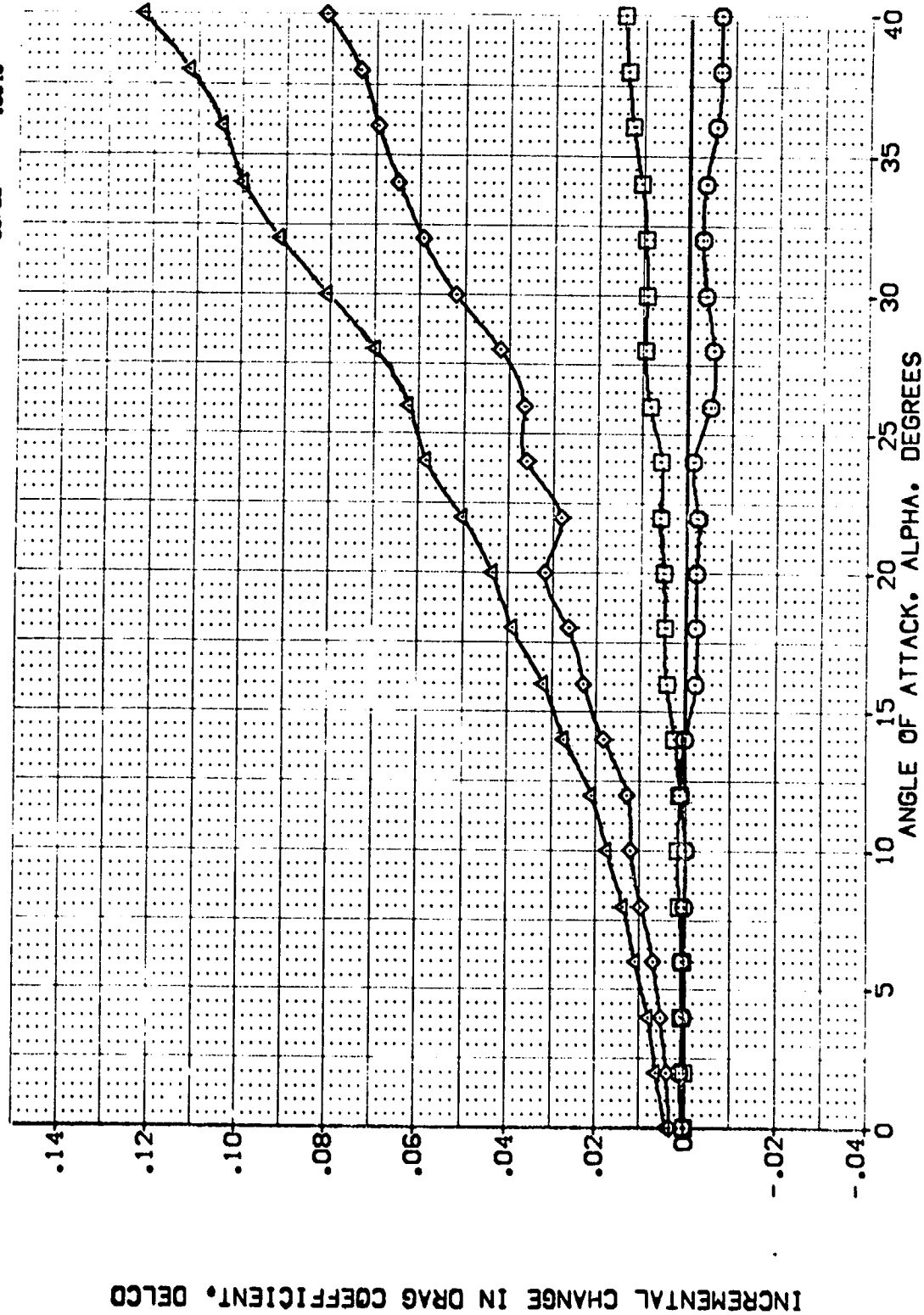
INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCO

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(F)MACH = 2.99

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION: REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
1-62003	H57C 581 (DA19) 053 34-0 (BDH) (VE)(VR)	-4.310	-11.700	25.550	-630	SREF 2741.8000 SQ. FT
1-62004	H57C 581 (DA19) 053 34-0 (BDH) (VE)(VR)	4.160	-11.700	25.550	-670	LREF 481.6480 IN.
1-62107	H57C 581 (DA19) 053 34-0 (BDH) (VE)(VR)	13.130	-11.700	25.550	-650	BREF 936.7000 IN.
1-62005	H57C 581 (DA19) 053 34-0 (BDH) (VE)(VR)	16.750	-11.700	25.550	-1.680	XMRP 1081.3500 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040



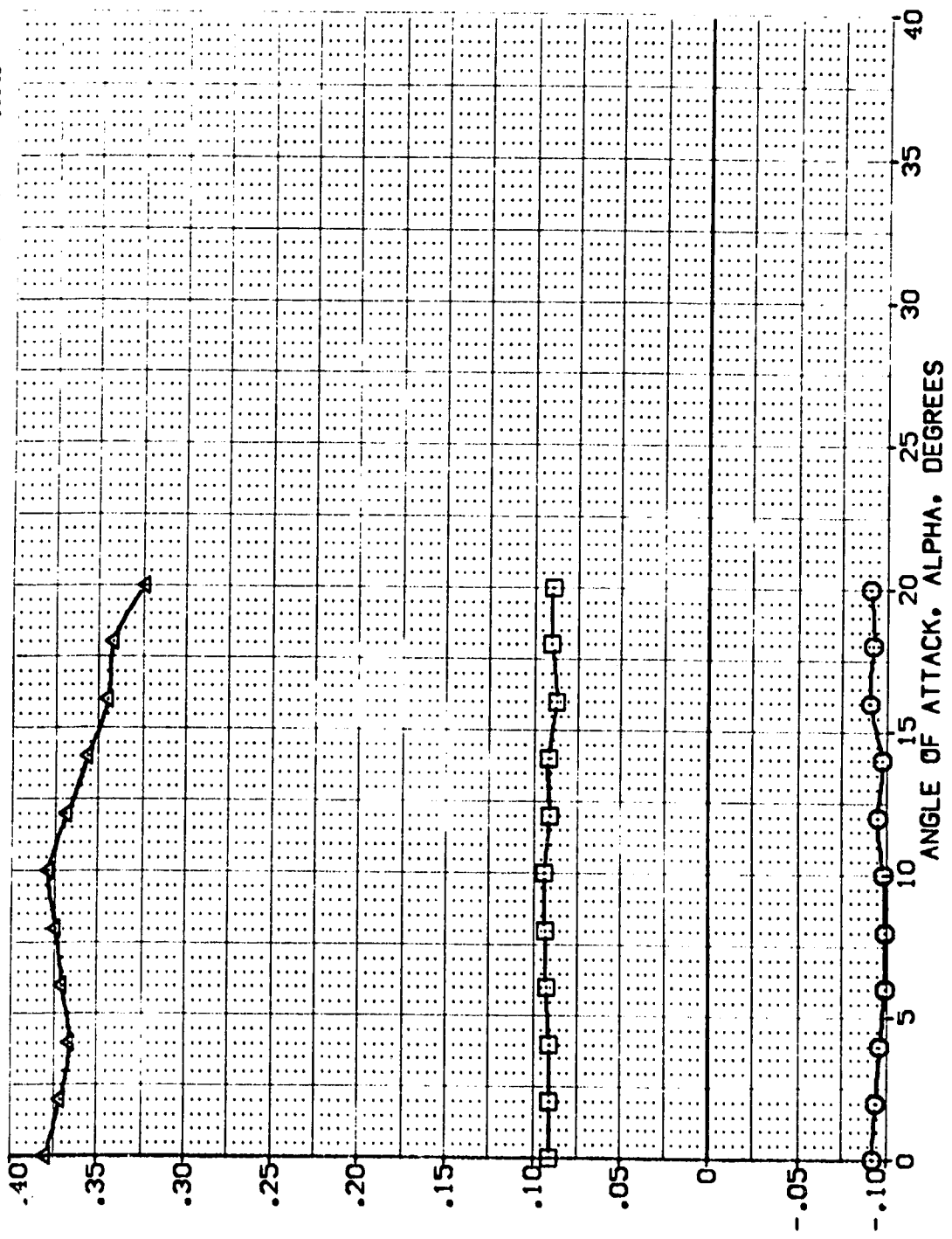
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(G)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [H2003] MSFC 581(DA19) ORB 34-0 (BCFM) (VE)(VR)
 [H2004] MSFC 581(DA19) ORB 34-0 (BCFM) (VE)(VR)
 [H2107] DATA NOT AVAILABLE
 [H2206] MSFC 581(DA19) ORB 34-0 (BCFM) (VE)(VR)

DELEVR BDFLAP SPDBRK AILRON REFERENCE INFORMATION
 -4.310 -11.700 25.550 -1.530 SREF 2741.8000 SQ. FT
 4.150 -11.700 25.550 -1.570 LREF 481.5480 IN.
 12.130 -11.700 25.550 -1.530 BREF 936.7000 IN.
 16.750 -11.700 25.550 -1.600 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A)MACH = .59



DATA SET SYMBOL:    

CONFIGURATION DESCRIPTION: MSFC 581 (0A43) ORB 34-0 (BOFH) (VE)(VR) MSFC 581 (0A43) ORB 34-0 (BOFH) (VE)(VR) DATA NOT AVAILABLE MSFC 581 (0A43) ORB 34-0 (BOFH) (VE)(VR)

DELEVR: -4.310 4.160 13.300 16.790

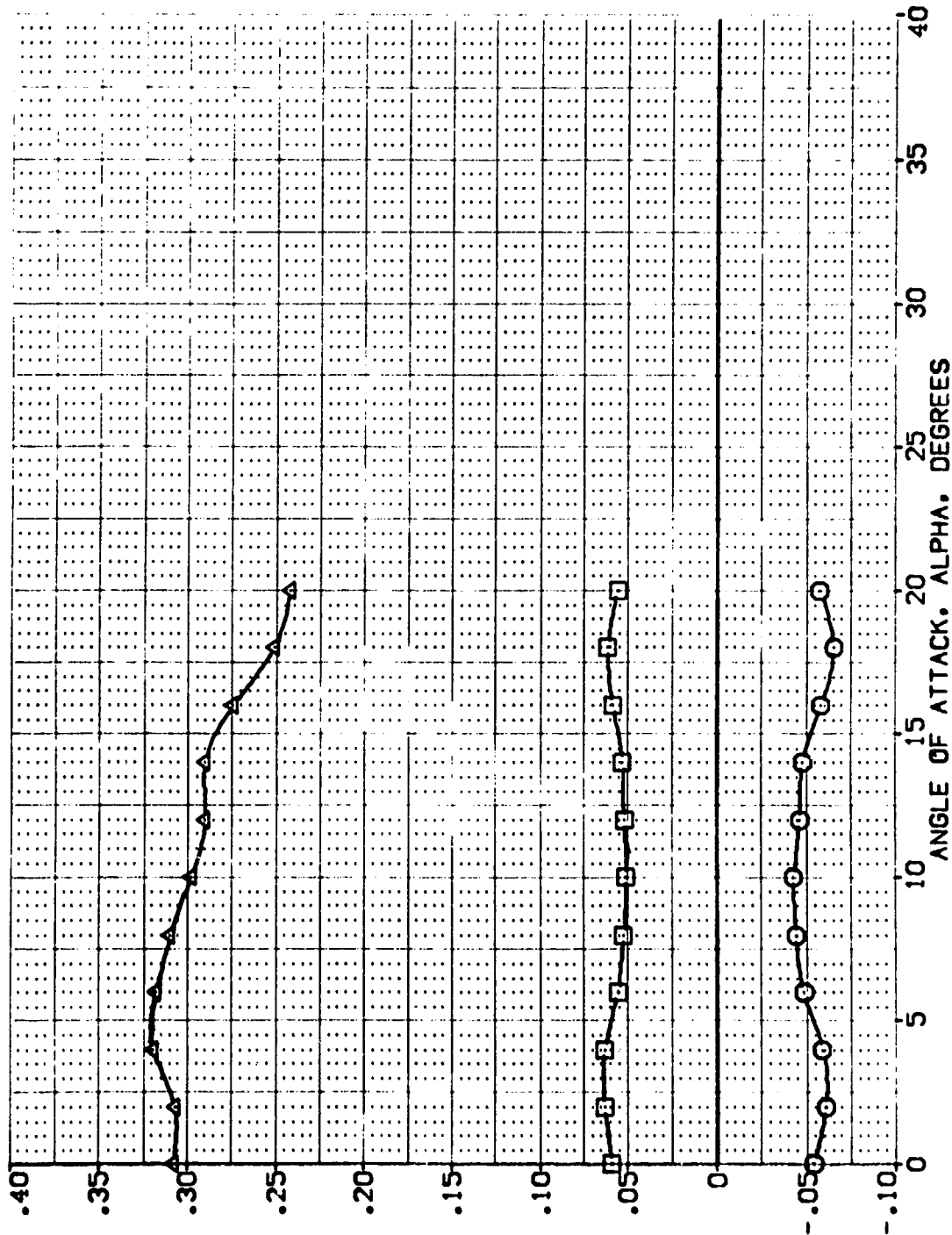
BOFLAP: -11.700 -11.700 -11.700 -11.700

SP0BRK: 25.550 25.550 25.550 25.550

AILLRON: -1.630 -1.670 -1.650 -1.680

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 936.7000 IN. XMRP 1081.3500 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

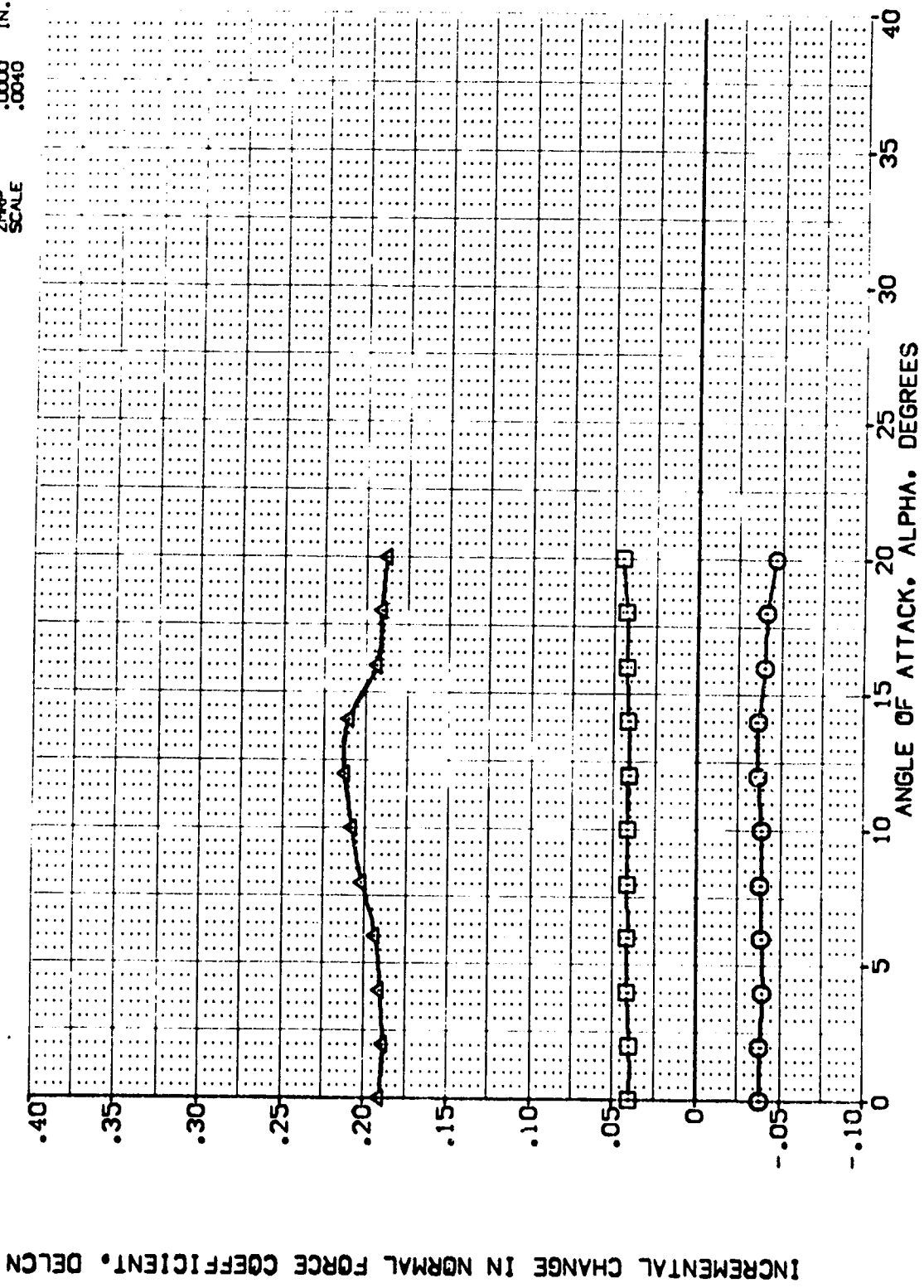
{H82003}	MSFC 581(DA49) DB 34-0 (BOFM)	{VE}{VR}
{H82004}	MSFC 581(DA49) DB 34-0 (BOFM)	{VE}{VR}
{H82107}	DATA NOT AVAILABLE	
{H82005}	MSFC 581(DA49) DB 34-0 (BOFM)	{VE}{VR}

DELEVR BOFLAP SP0BRK AILRON

-4.310	-11.700	25.550	-0.530
4.150	-11.700	23.550	-0.670
13.130	-11.700	23.550	-0.850
16.750	-11.700	23.550	-1.180

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XMRP	1081.3500	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0040	



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

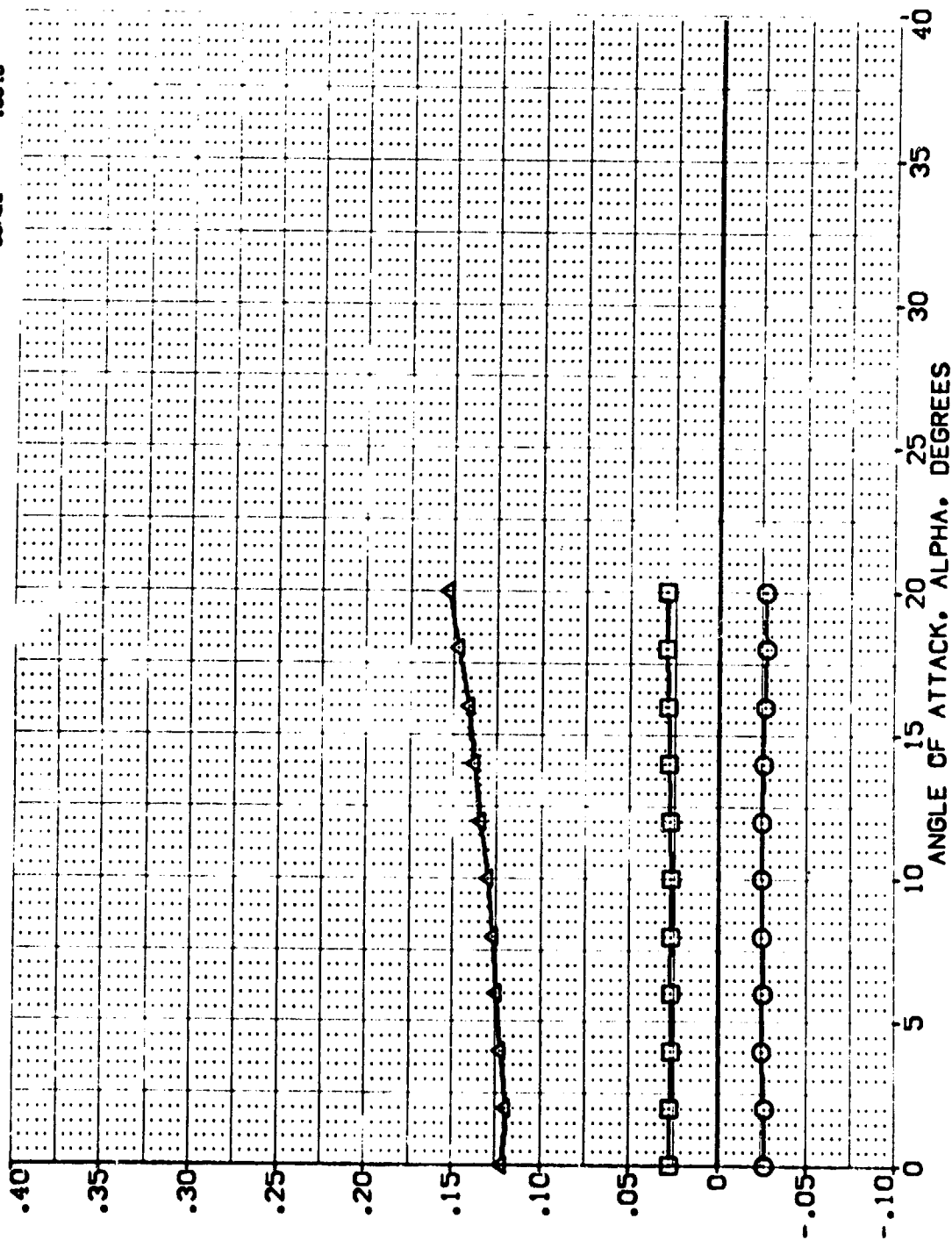
(C)MACH = 1.20



DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDCLAP	SPDBRK	ALIGN	REFERENCE INFORMATION
(H22003)	MSFC 581(OA49) 018 34-0 (BDFH) (VE)(VR)	-4.310	-11.700	25.550	-630	SREF 2741.8000 SQ. FT
(H22004)	MSFC 581(OA49) 018 34-0 (BDFH) (VE)(VR)	4.160	-11.700	25.550	-670	LREF 481.6480 IN.
(H22107)	DATA NOT AVAILABLE	13.130	-11.700	25.550	-650	BREF 936.7000 IN.
(H22005)	MSFC 581(OA49) 018 34-0 (BDFH) (VE)(VR)	16.730	-11.700	25.550	-1.680	XMRP 1081.3500 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

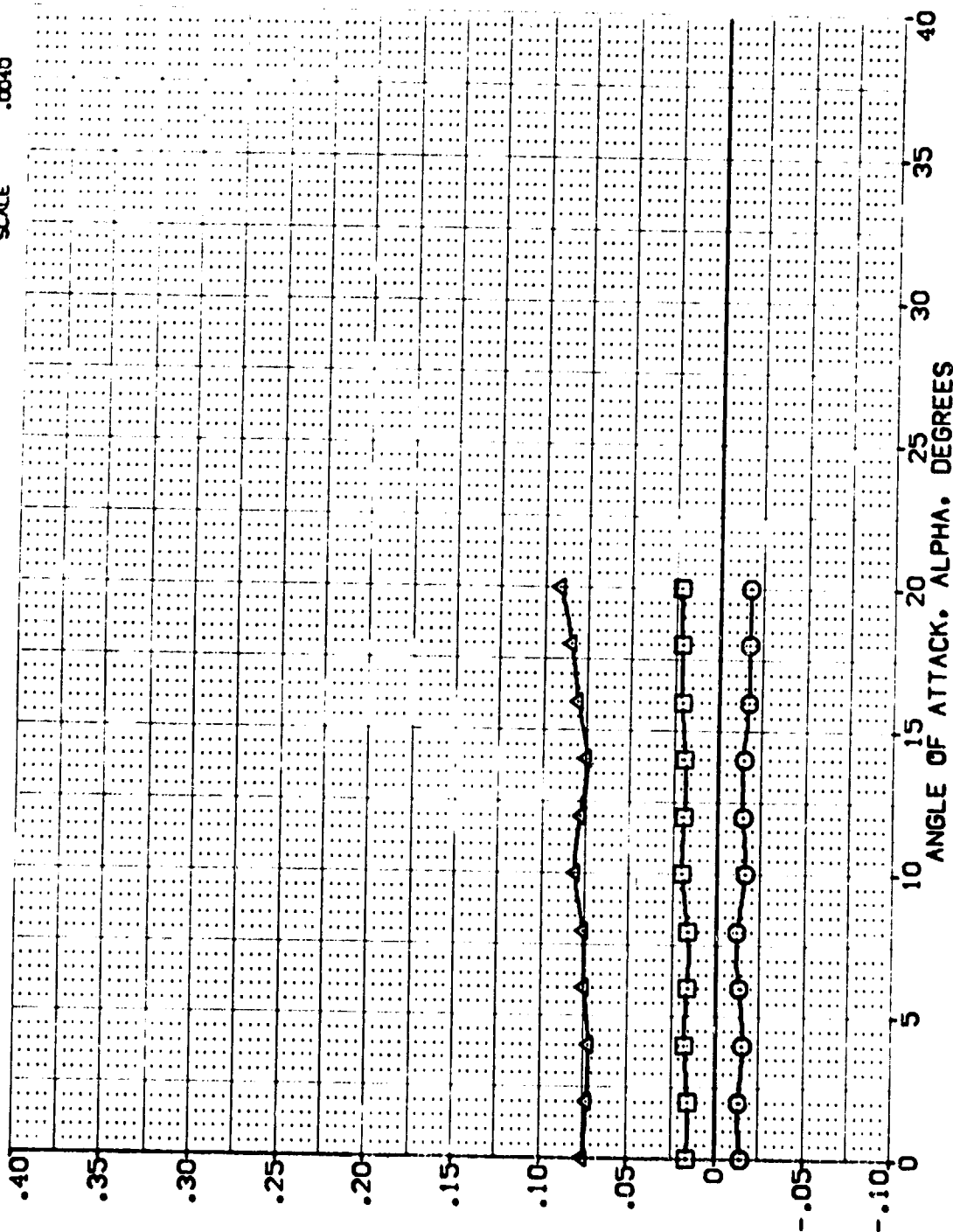
(O)MACH = 1.46

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [142003] [142004] [142107] [142005]
 MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
 MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
 DATA NOT AVAILABLE
 MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)

DELEVR BDFLAP SPOBRK AILRON
 -4.310 -11.700 25.550 -1.630
 4.160 -11.700 25.550 -1.670
 13.130 -11.700 25.550 -1.650
 16.750 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3900 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)MACH = 1.95



DATA SET SYMBOL: 1420003 1420004 1421071 1420005

CONFIGURATION DESCRIPTION: 142C 581 (0A19) 078 34-0 (BOTH) (VE)(VR) 142C 581 (0A19) 078 34-0 (BOTH) (VE)(VR) 142C 581 (0A19) 078 34-0 (BOTH) (VE)(VR) 142C 581 (0A19) 078 34-0 (BOTH) (VE)(VR)

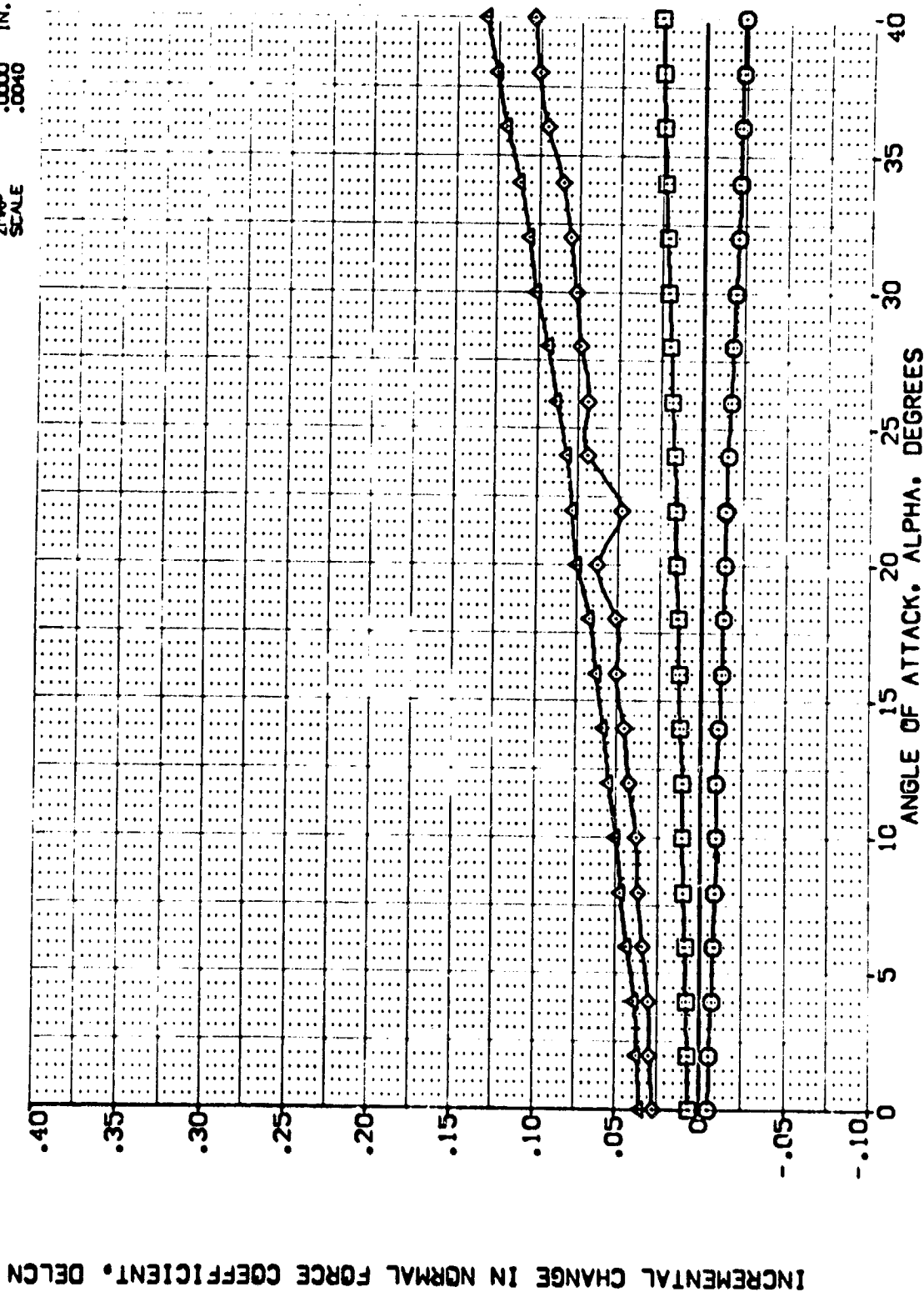
DELEV: -4.310 4.160 13.130 16.790

EDFLAP: -11.700 -11.700 -11.700 -11.700

SPDRK: 25.550 25.550 25.550 25.550

AILEVN: -1.630 -1.670 -1.650 -1.680

REFERENCE INFORMATION: SREF 2741.8000 SO. FT LREF 481.6480 IN. BREF 536.7000 IN. XREF 1081.3900 IN. YREF .0000 IN. ZREF .0000 IN. SCALE .0040

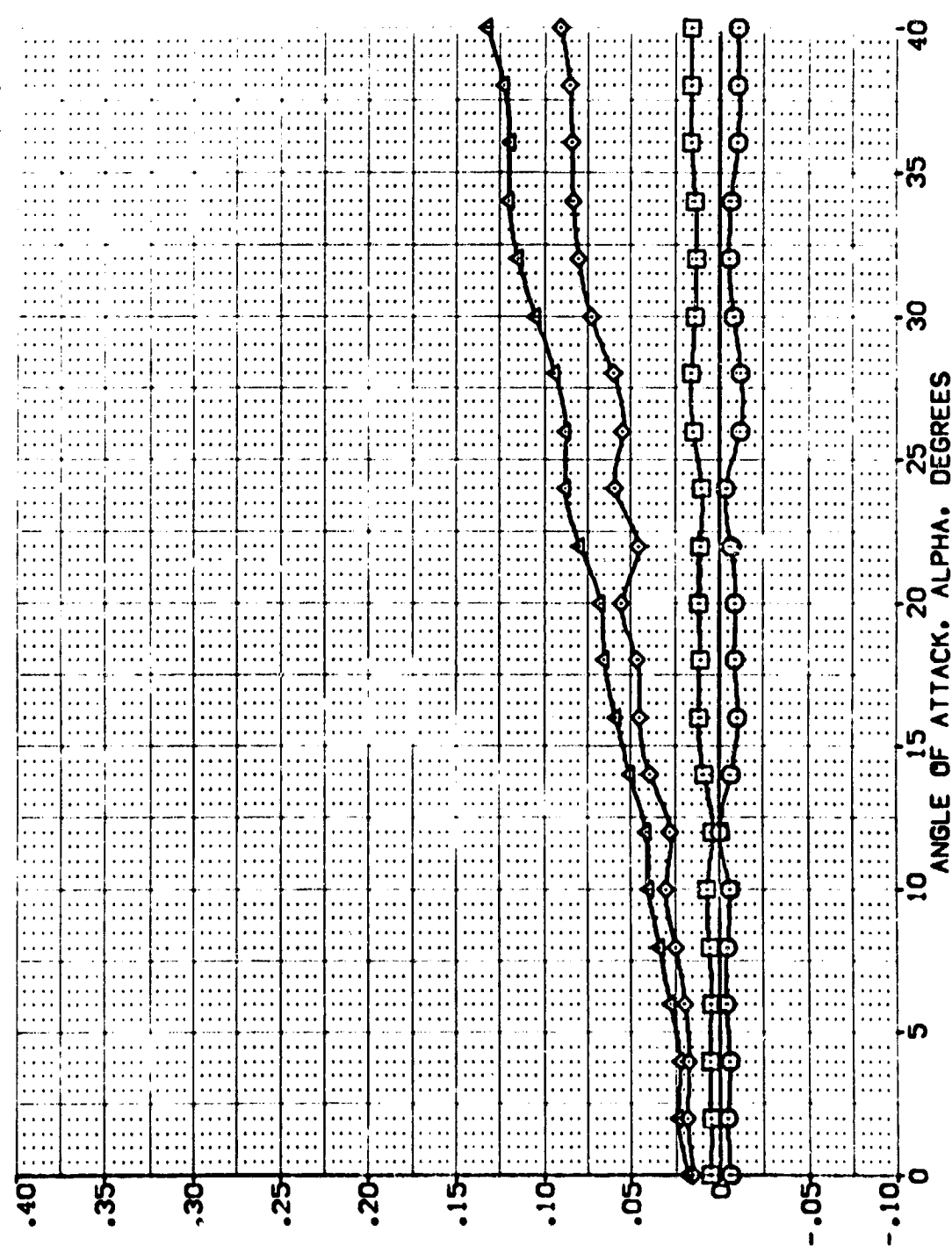


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(F)MACH = 2.99

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDCLAP	SPOBRK	ALLRON	REFERENCE INFORMATION
[H2003]	MSFC S91(CA49) C28 3A-0 (BDH) (VE)(VR)	-4.310	-11.700	25.550	-1.530	SREF 2741.8000 SQ. FT
[H2004]	MSFC S91(CA49) C28 3A-0 (BDH) (VE)(VR)	4.150	-11.700	25.550	-1.570	LREF 481.6480 IN.
[H2107]	MSFC S91(CA49) C28 3A-0 (BDH) (VE)(VR)	13.130	-11.700	25.550	-1.630	BREF 936.7000 IN.
[H2300]	MSFC S91(CA49) C28 3A-0 (BDH) (VE)(VR)	16.750	-11.700	25.550	-1.680	XPRP 1081.3500 IN.
						YPRP .0000 IN.
						ZPRP .0000 IN.
						SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(G)MACH = 4.96

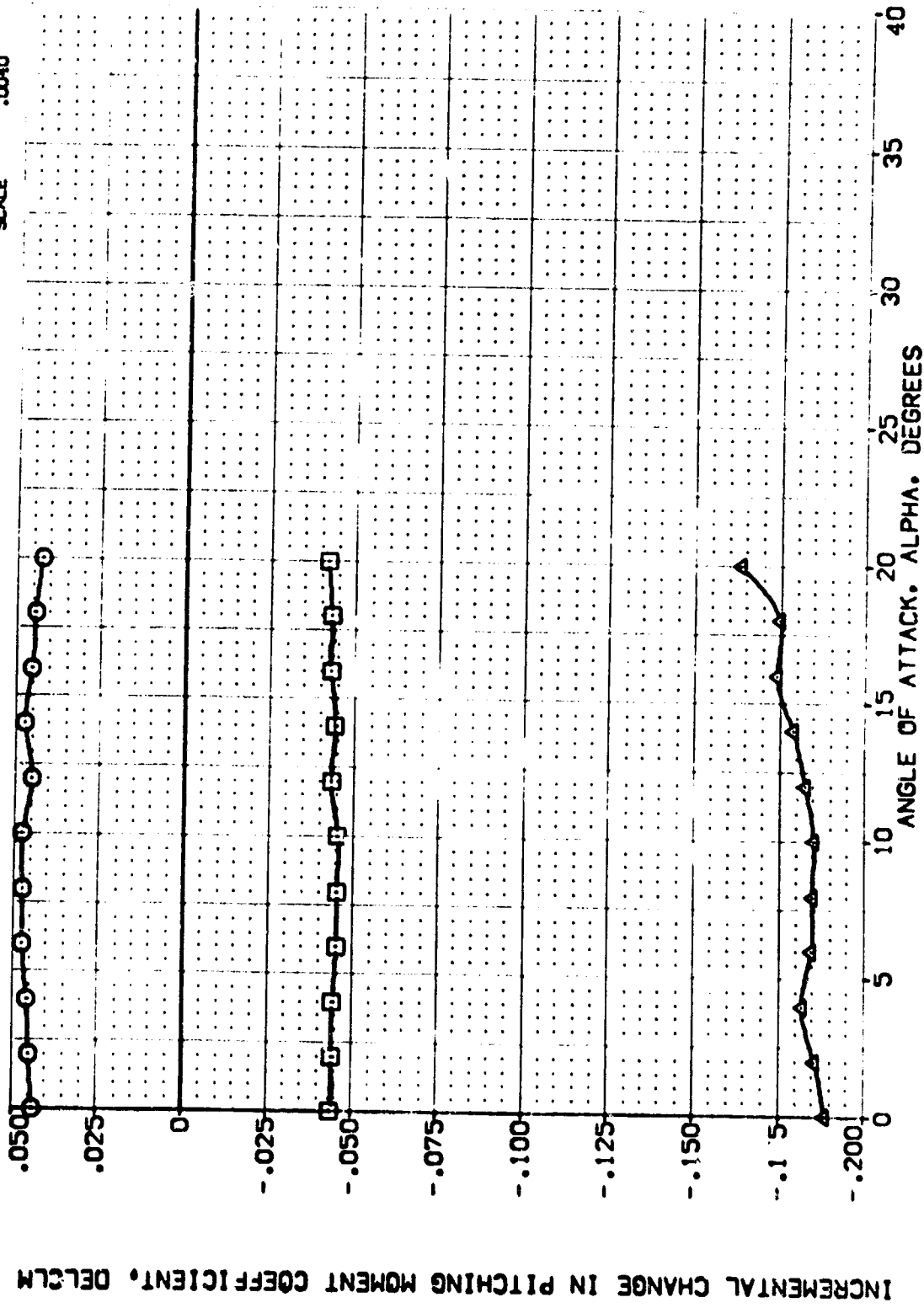


DATA SET SYMBOL CONFIGURATION DESCRIPTION

[M2003]	MSFC 501 (GA49) 078 34-0 (BOTH)	[VE] (VR)
[M2004]	MSFC 501 (GA49) 078 34-0 (BOTH)	[VE] (VR)
[M2107]	DATA NOT AVAILABLE	
[M2203]	MSFC 501 (GA49) 078 34-0 (BOTH)	[VE] (VR)

DELEV R BOTLAP SPDBRK AILRON REFERENCE INFORMATION

-4.310	-11.700	25.550	-630	SREF	2741.8000	50. FT
4.160	-11.700	25.550	-670	LREF	481.6480	IN.
13.130	-11.700	25.550	-650	BREF	935.7000	IN.
16.750	-11.700	25.550	-1.680	XPRP	1081.3500	IN.
				YPRP	.0000	IN.
				ZPRP	.0000	IN.
				SCALE	.0040	



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

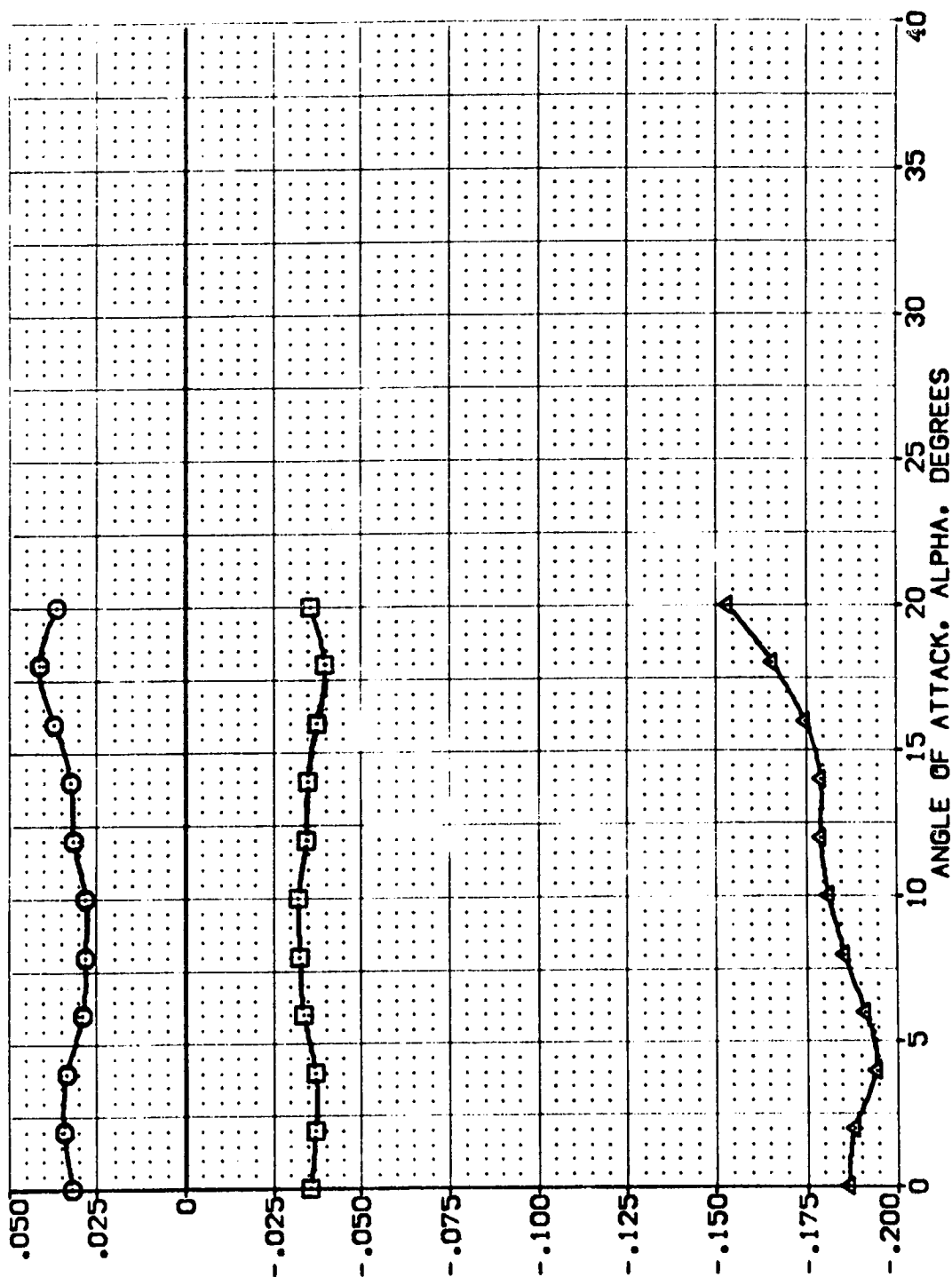
(A)MACH = .59



DATA SET SYMBOL CONFIGURATION DESCRIPTION
{H62003} MSFC 581(OA4S) CRB 34-0 (BCFM) (VE)(VR)
{H62004} MSFC 581(OA4S) CRB 34-0 (BCFM) (VE)(VR)
{H62107} DATA NOT AVAILABLE
{H62005} MSFC 581(OA4S) CRB 34-0 (BCFM) (VE)(VR)

DELEV0 DEFLAP SPOBRK AILRON REFERENCE INFORMATION SQ. FT
-4.310 -11.700 25.550 -.630 SREF 2741.8000 IN.
4.160 -11.700 25.550 -.670 LREF 481.6480 IN.
13.130 -11.700 25.550 -.650 BREF 936.7000 IN.
16.750 -11.700 25.550 -1.680 XMRP 1081.3900 IN.
ZMRP .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



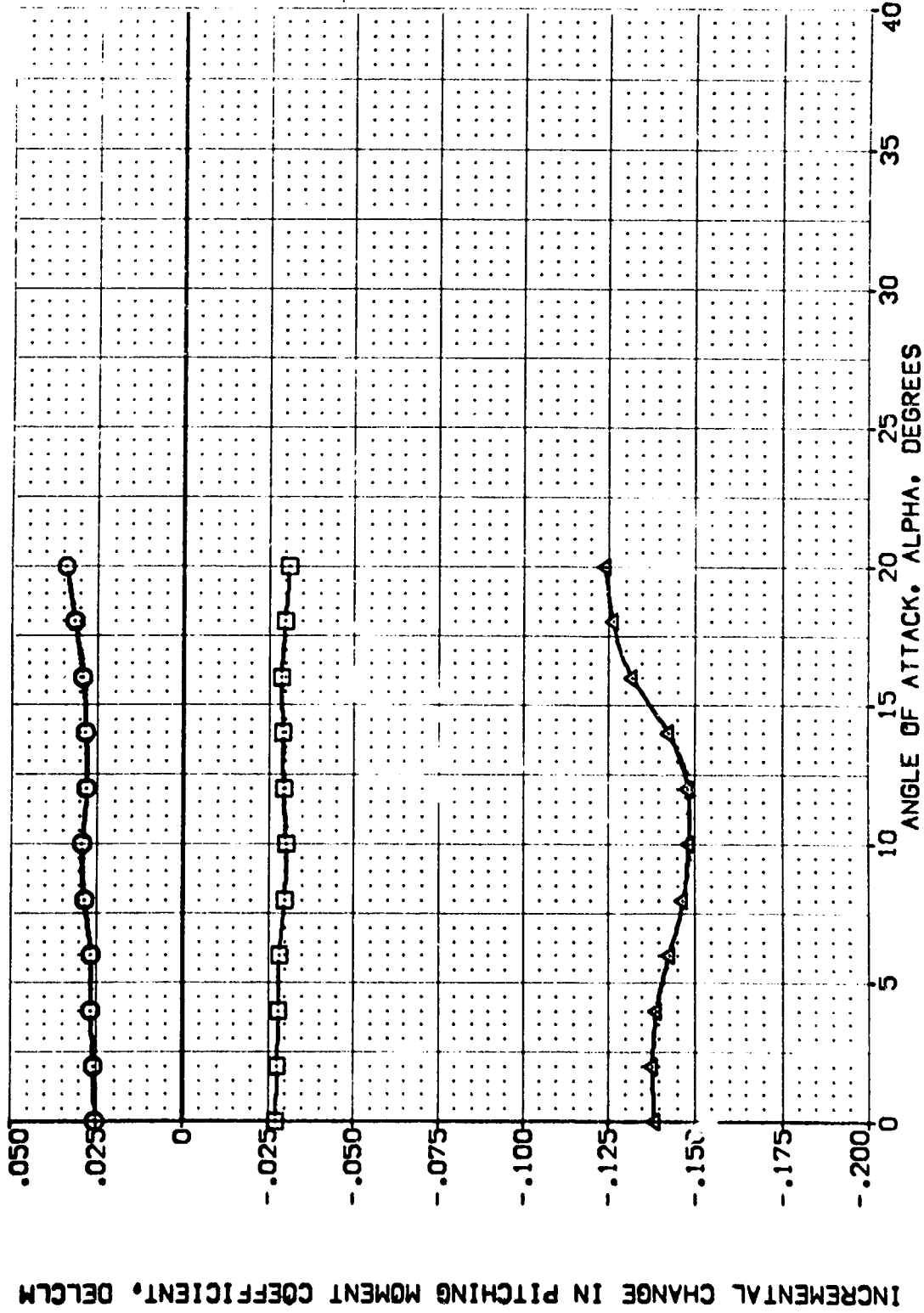
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {H20003} MSFC 581(0A45) DB 3A-0 (BDFM) (VE)(VR)
 {H20004} MSFC 581(0A45) DB 3A-0 (BDFM) (VE)(VR)
 {H20107} DATA NOT AVAILABLE
 {H20005} MSFC 581(0A45) DB 3A-0 (BDFM) (VE)(VR)

DELEVR BDFLAP SPOBRK AILRON
 -4.310 -11.700 25.550 -1.630
 4.160 -11.700 25.550 -1.670
 13.130 -11.700 25.550 -1.650
 16.750 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040







ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)MACH = 1.20

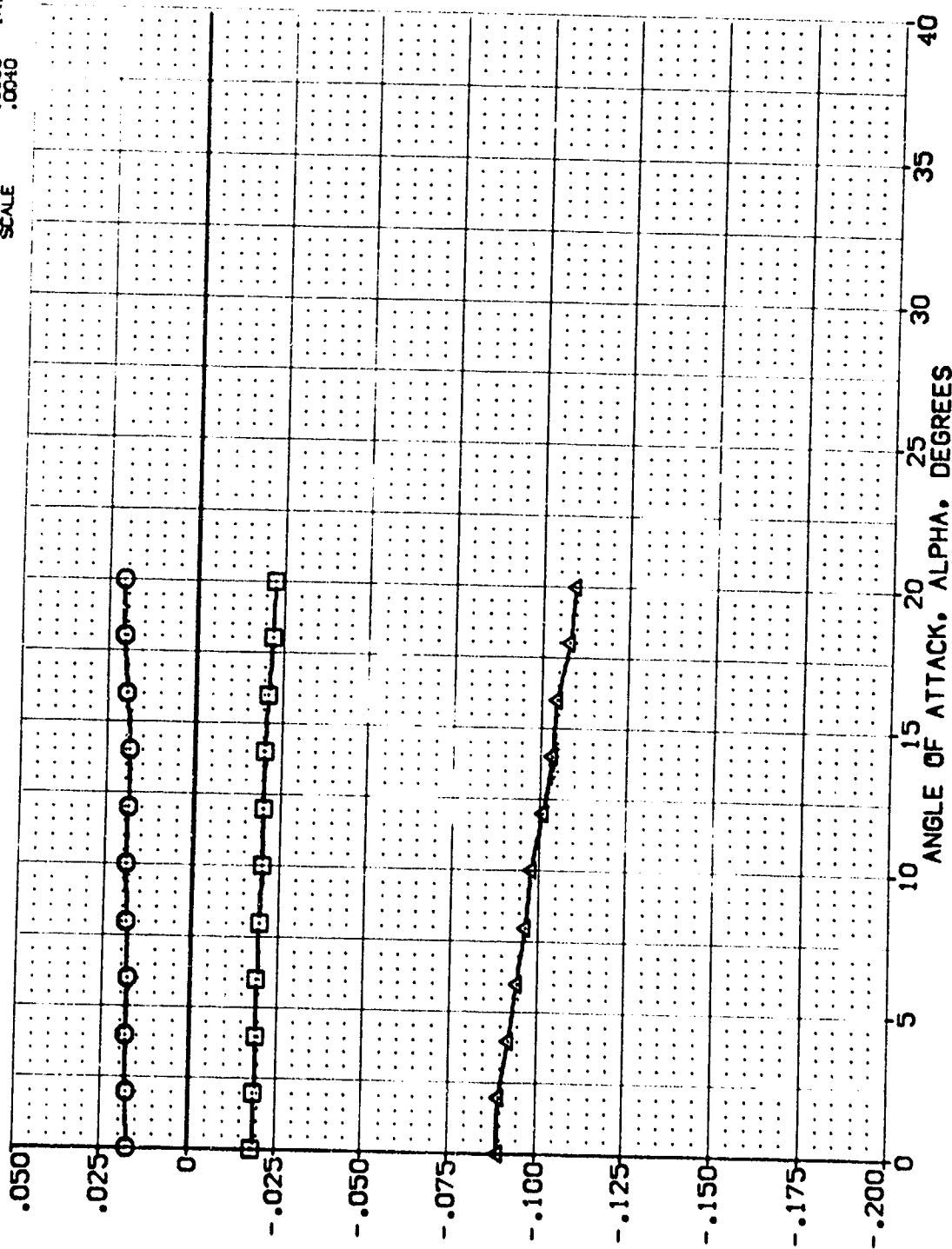


INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

DATA SET SYMBOL:    
[H22003] [H22004] [H22107] [H22005]
[H2C 581 (0A49) 0RB 3A-0 (BDFM) (VE)(VR)]
[H2C 581 (0A49) 0RB 3A-0 (BDFM) (VE)(VR)]
[H2C 581 (0A49) 0RB 3A-0 (BDFM) (VE)(VR)]
[H2C 581 (0A49) 0RB 3A-0 (BDFM) (VE)(VR)]

DELEVR BDFLAP SPCSRK ALLCON
-4.310 -11.700 25.550 -1.630
4.150 -11.700 23.550 -1.670
13.130 -11.700 23.550 -1.650
16.730 -11.700 23.550 -1.680

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3900 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040

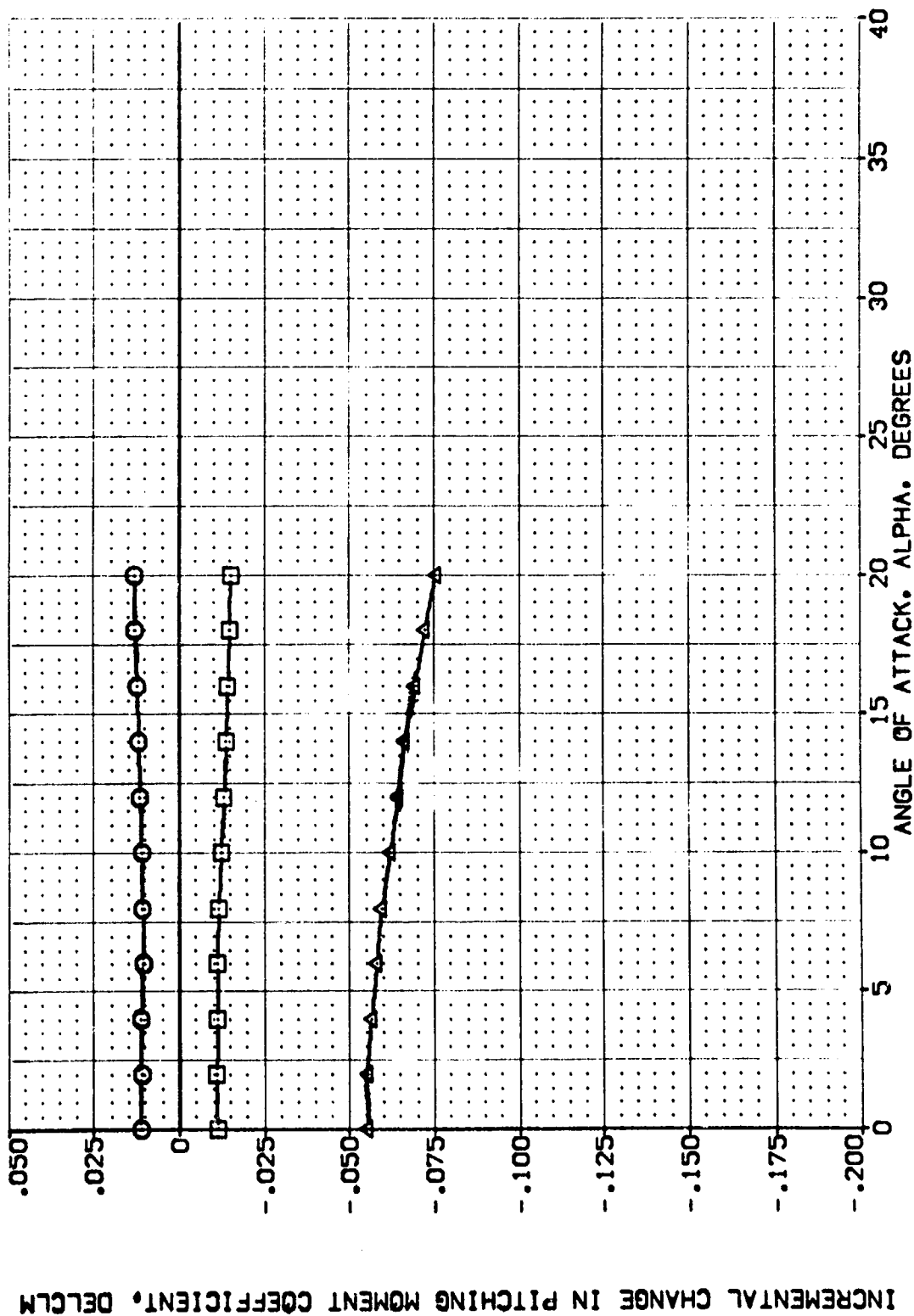


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(CD)MACH = 1.46

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDCLAP	SPDRBK	AILRON	REFERENCE INFORMATION
MSFC 581(0A49)	ORB 34-0 (BCFM) (VE)(VR)	-4.310	-11.700	25.550	-1.630	SREF 2741.8000 SQ. FT
MSFC 581(0A49)	ORB 34-0 (BCFM) (VE)(VR)	4.160	-11.700	25.550	-1.670	LREF 481.6480 IN.
DATA NOT AVAILABLE		13.130	-11.700	25.550	-1.650	BREF 936.7000 IN.
MSFC 581(0A49)	ORB 34-0 (BCFM) (VE)(VR)	16.790	-11.700	25.550	-1.620	XTRP 1081.3500 IN.
						YTRP .0000 IN.
						ZTRP .0000 IN.
						SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)MACH = 1.95

DATA SET SYMBOL. CONFIGURATION DESCRIPTION

MSFC 581 (0A19) 0RB 34-0 (BOTH) (VE) (VR)

MSFC 581 (0A19) 0RB 34-0 (BOTH) (VE) (VR)

MSFC 581 (0A19) 0RB 34-0 (BOTH) (VE) (VR)

MSFC 581 (0A19) 0RB 34-0 (BOTH) (VE) (VR)

DELEVR BOFLAP SPOBRK AILRON

-4.310 -11.700 25.550 -630

4.160 -11.700 25.550 -670

13.130 -11.700 25.550 -650

16.790 -11.700 25.550 -1.680

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT

LREF 481.6480 IN.

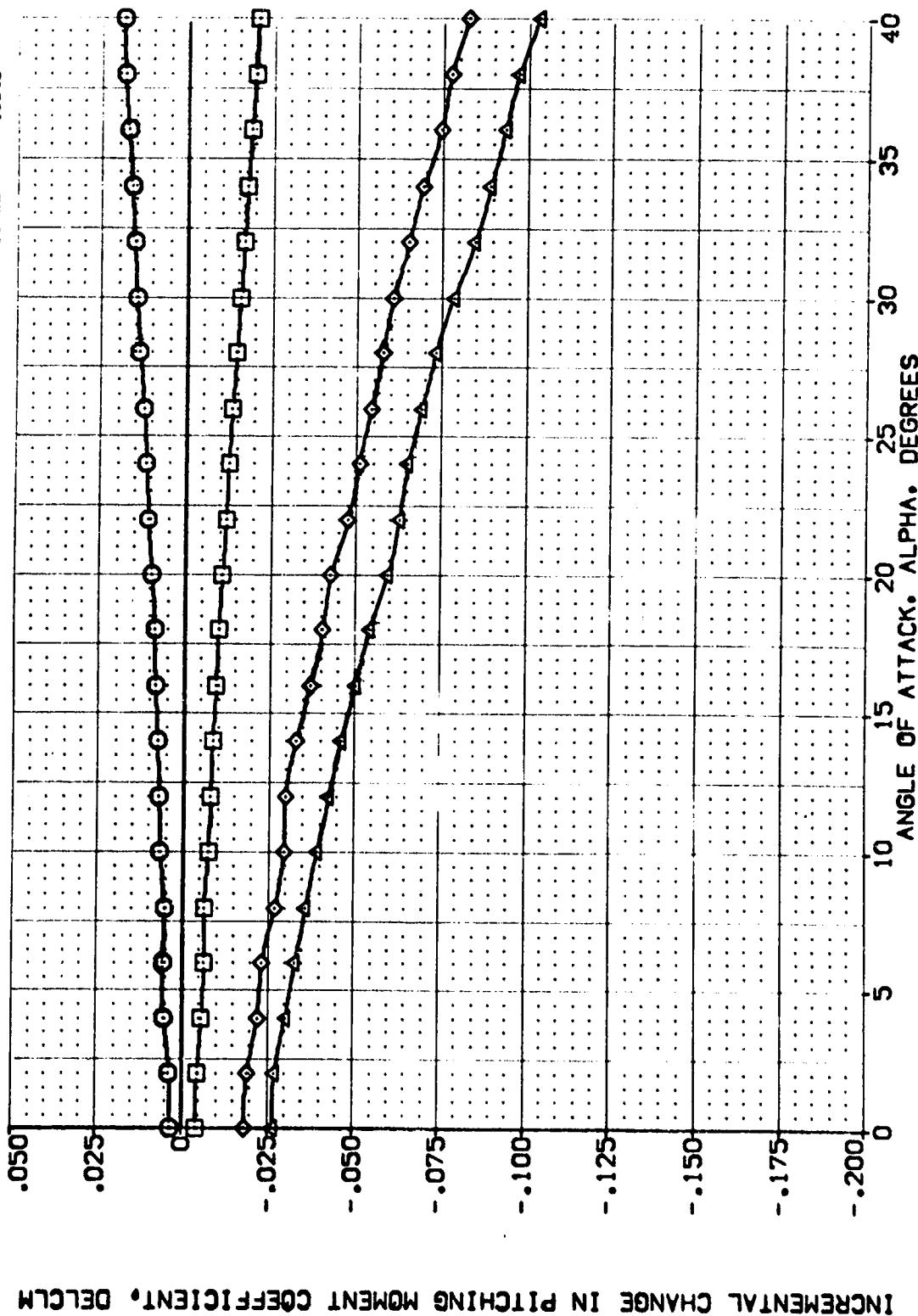
BREF 556.7000 IN.

XMRP 1081.3500 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0040

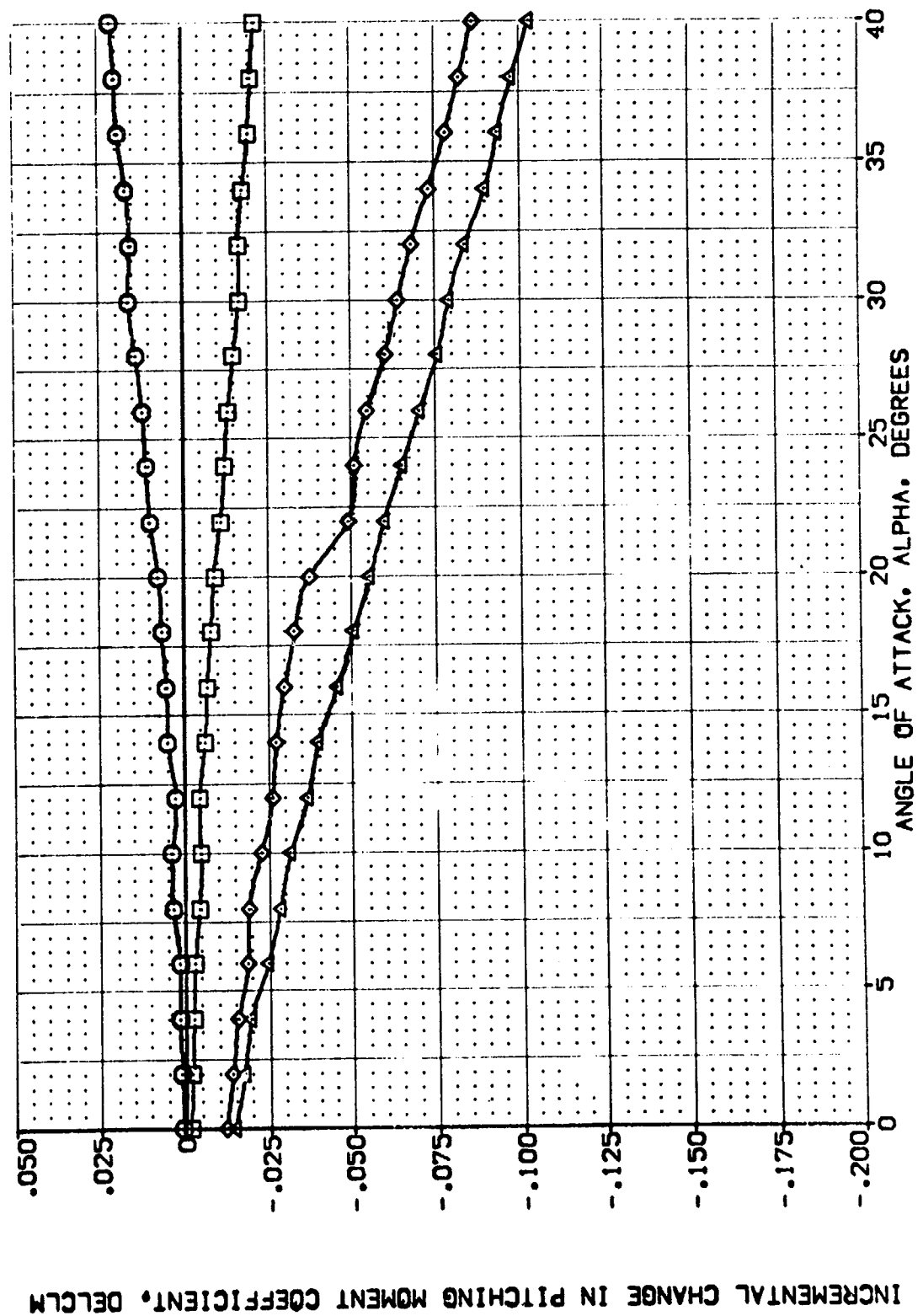


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(F)MACH = 2.99



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDFLAP	SPDRK	AILRON	REFERENCE INFORMATION	
{-62003}	HSTC 501 (DA49) ORB 34-0 (BDTH) (VE)(VR)	-4.310	-11.700	25.550	-0.630	SREF	2741.8000
{-62004}	HSTC 501 (DA49) ORB 34-0 (BDTH) (VE)(VR)	4.160	-11.700	25.550	-0.670	LREF	481.6480
{-62107}	HSTC 501 (DA49) ORB 34-0 (BDTH) (VE)(VR)	13.130	-11.700	25.550	-0.650	BREF	536.7000
{-62005}	HSTC 501 (DA49) ORB 34-0 (BDTH) (VE)(VR)	16.750	-11.700	25.550	-1.680	XMRP	1081.3900
						YMRP	.0000
						ZMRP	.0000
						SCALE	.0040
							IN:
							IN:
							IN:
							IN:



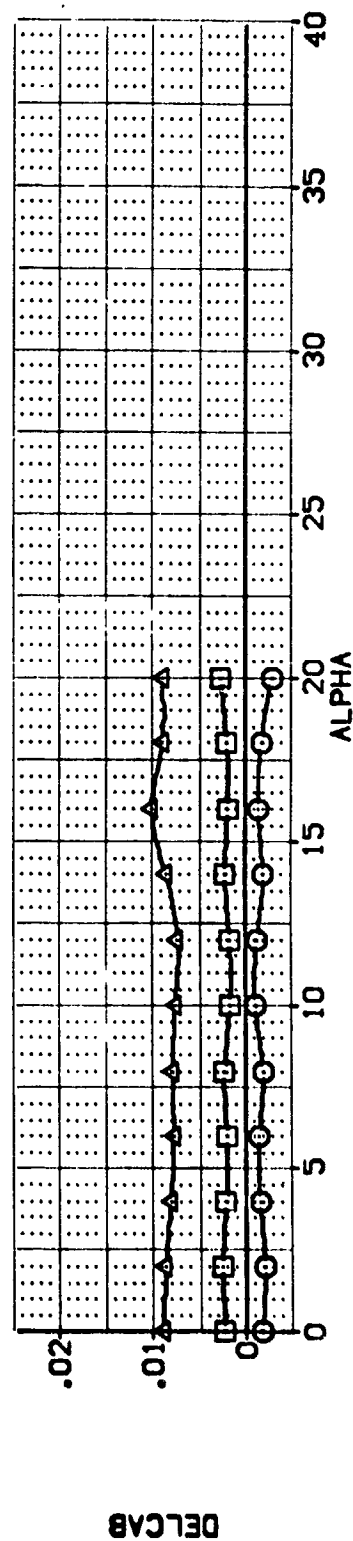
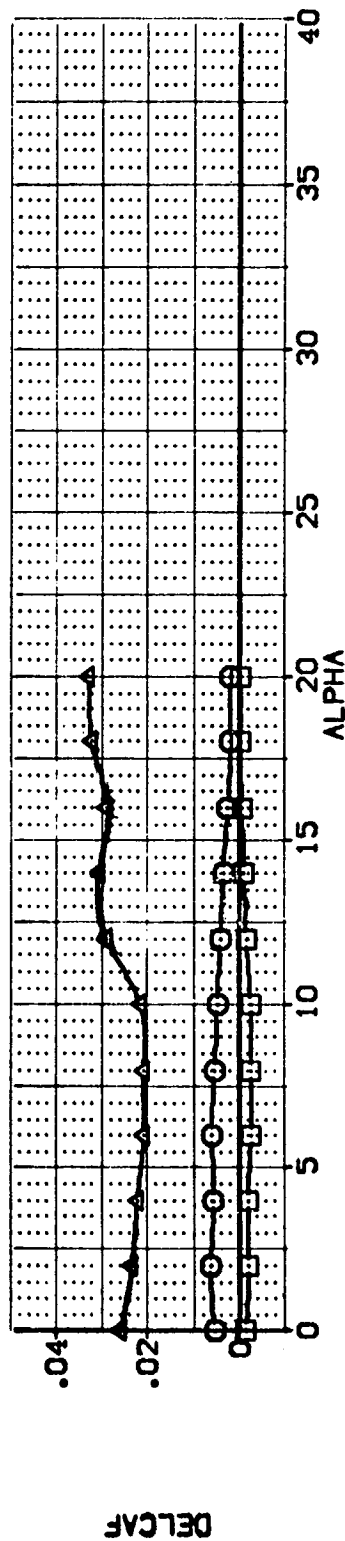
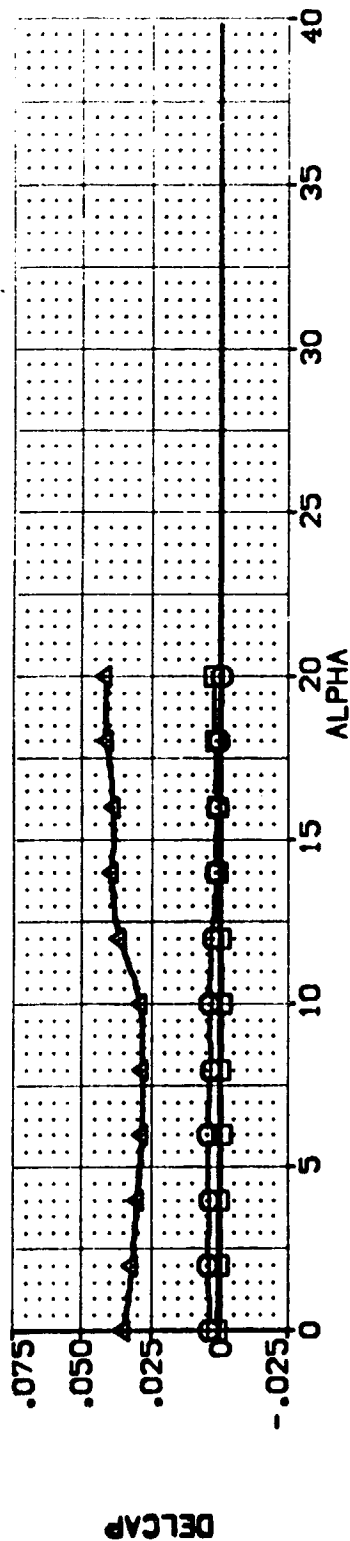
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(G)MACH = 4.96



DATA SET SYMBOL CONFIGURATION DESCRIPTION
{H2003} MSFC 581(0A49) 0R8 34-0 (BCFM) {VE}{VR}
{H2004} MSFC 581(0A49) 0R8 34-0 (BCFM) {VE}{VR}
{H2107} DATA NOT AVAILABLE
{H2005} MSFC 581(0A49) 0R8 34-0 (BCFM) {VE}{VR}

DELEVR BOFLAP SPDBRK AILRON REFERENCE INFORMATION
-4.310 -11.700 25.550 -1.630 SREF 2741.8000 SQ. FT
4.160 -11.700 25.550 -1.630 LREF 481.6480 IN.
13.130 -11.700 25.550 -1.630 BREF 936.7000 IN.
16.730 -11.700 25.550 -1.630 XREF 1081.3500 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0040



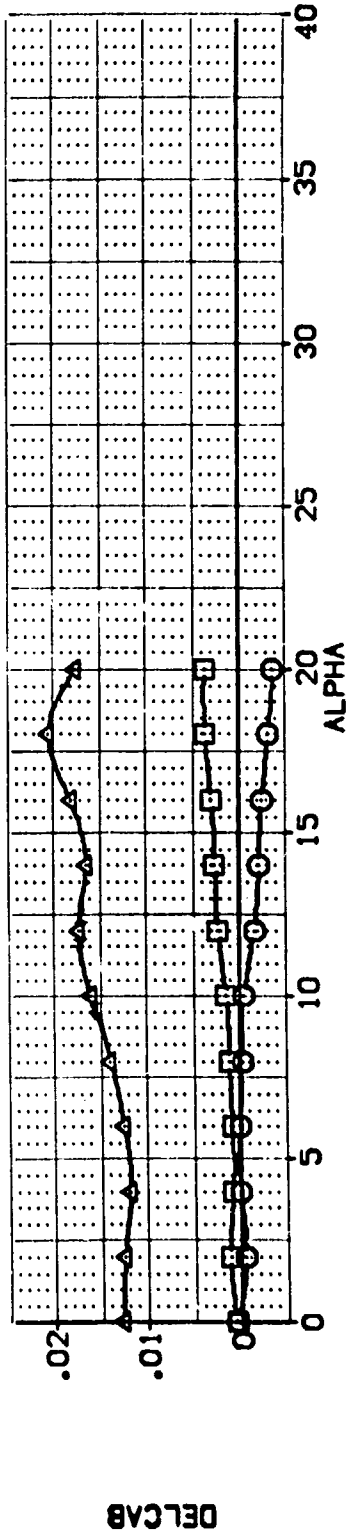
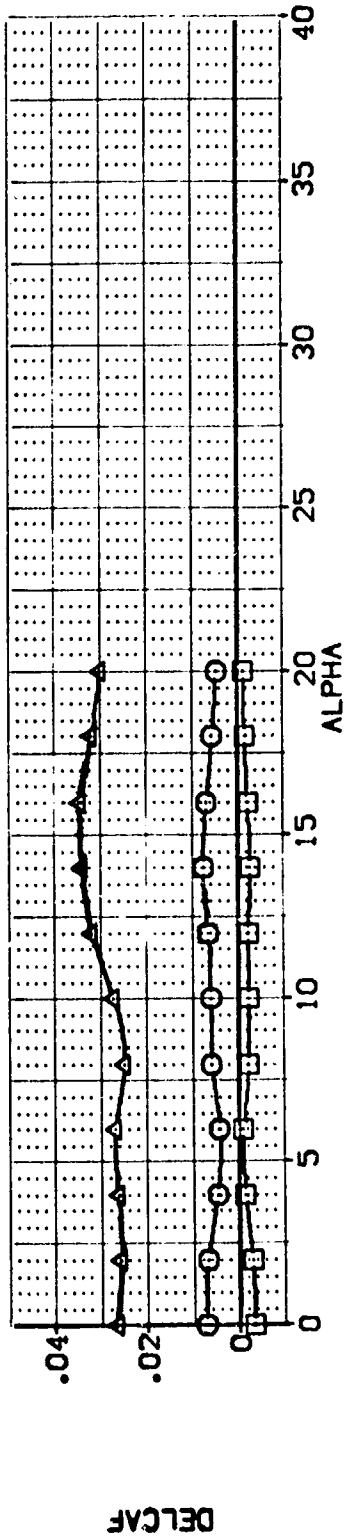
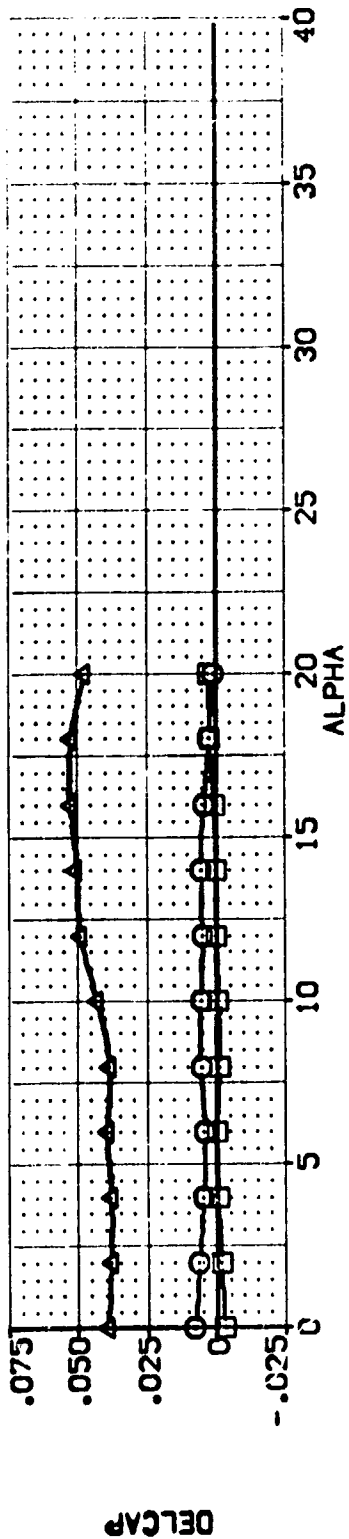
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A)MACH = .59

DATA SET SYMBOL. CONFIGURATION DESCRIPTION
 (H22003) {H2C 581 (DA49) 0RB 34-0 (BDTH) (VE)(VR)
 (H22004) {H2C 581 (DA49) 0RB 34-0 (BDTH) (VE)(VR)
 (H22107) DATA NOT AVAILABLE
 (H22005) {H2C 581 (DA49) 0RB 34-0 (BDTH) (VE)(VR)

DELEV R BDCLAP SPOBRK AILRON
 -4.310 -11.700 25.550
 4.160 -11.700 25.550
 13.130 -11.700 25.550
 16.750 -11.700 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 191.6480 IN.
 BREF 536.7000 IN.
 XMRP 1081.3800 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

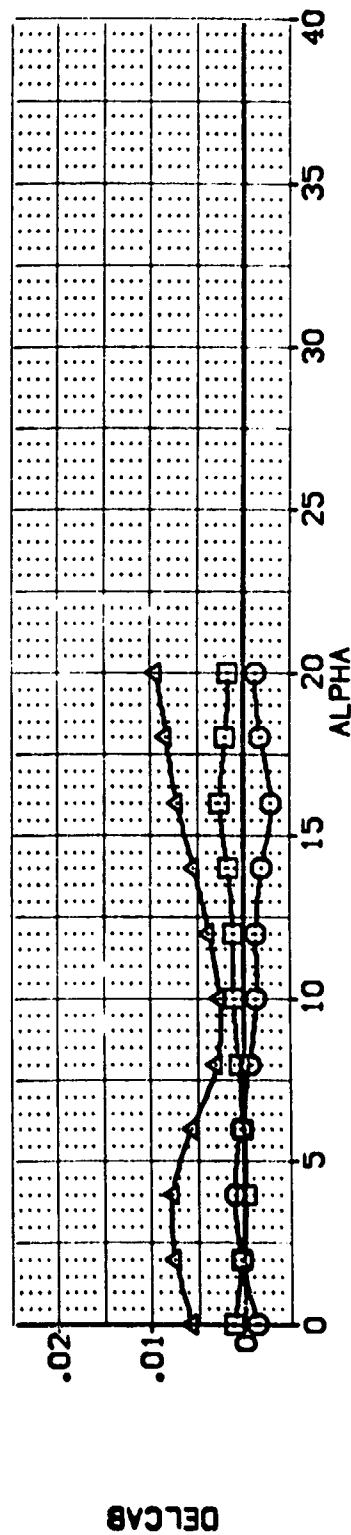
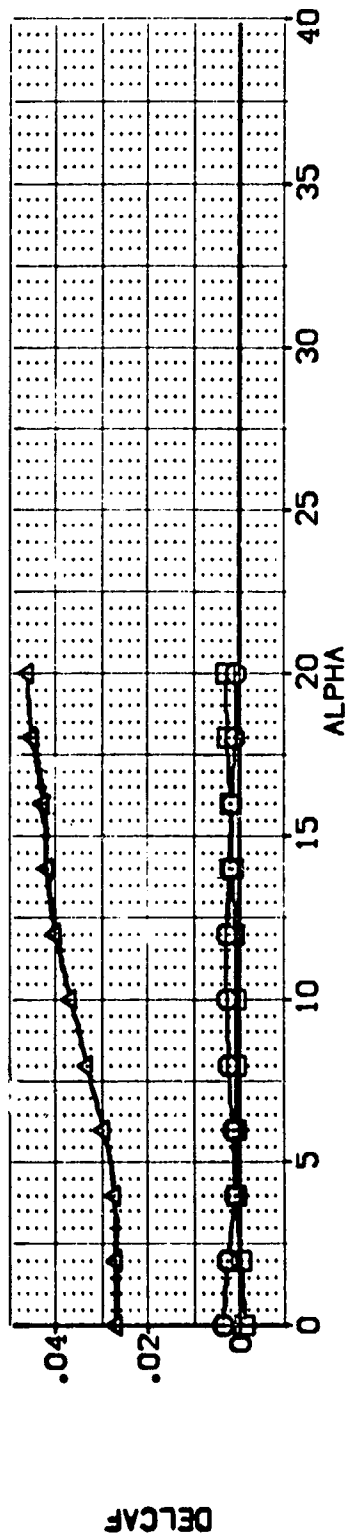
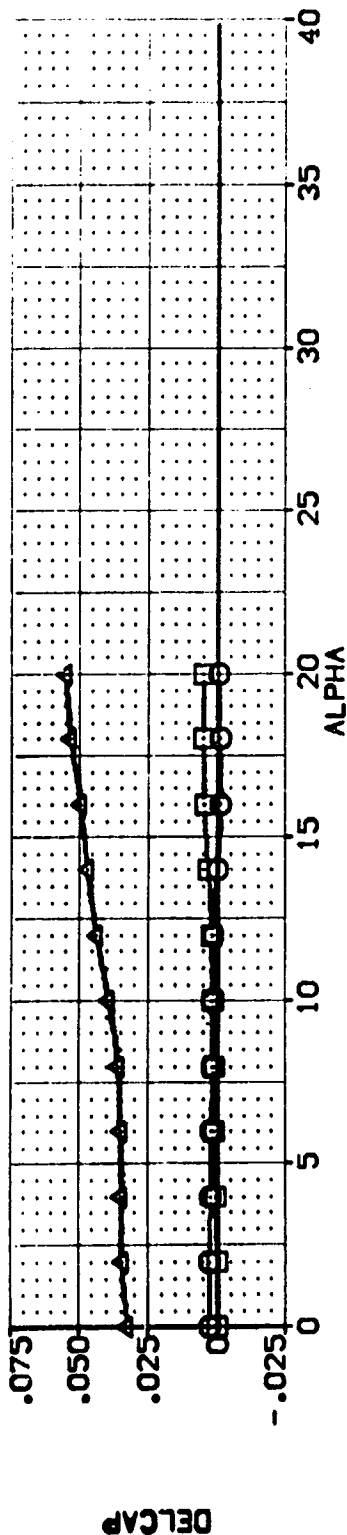


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {H22003} {H22004} {H22005} {H22006} {H22007} {H22008} {H22009} {H22010} {H22011} {H22012} {H22013} {H22014} {H22015} {H22016} {H22017} {H22018} {H22019} {H22020} {H22021} {H22022} {H22023} {H22024} {H22025} {H22026} {H22027} {H22028} {H22029} {H22030} {H22031} {H22032} {H22033} {H22034} {H22035} {H22036} {H22037} {H22038} {H22039} {H22040} {H22041} {H22042} {H22043} {H22044} {H22045} {H22046} {H22047} {H22048} {H22049} {H22050} {H22051} {H22052} {H22053} {H22054} {H22055} {H22056} {H22057} {H22058} {H22059} {H22060} {H22061} {H22062} {H22063} {H22064} {H22065} {H22066} {H22067} {H22068} {H22069} {H22070} {H22071} {H22072} {H22073} {H22074} {H22075} {H22076} {H22077} {H22078} {H22079} {H22080} {H22081} {H22082} {H22083} {H22084} {H22085} {H22086} {H22087} {H22088} {H22089} {H22090} {H22091} {H22092} {H22093} {H22094} {H22095} {H22096} {H22097} {H22098} {H22099} {H22100}

DELEVR 80FLAP 8000X AILRON REFERENCE INFORMATION
 -4.310 -11.700 -1.630 SREF 2741.8000 SQ. FT
 4.160 -11.700 -1.670 LREF 481.6480 IN.
 13.130 -11.700 -1.650 BREF 836.7000 IN.
 16.730 -11.700 -1.680 YMRP 1081.3500 IN.
 ZMRP .0000 IN.
 SCALE .0040



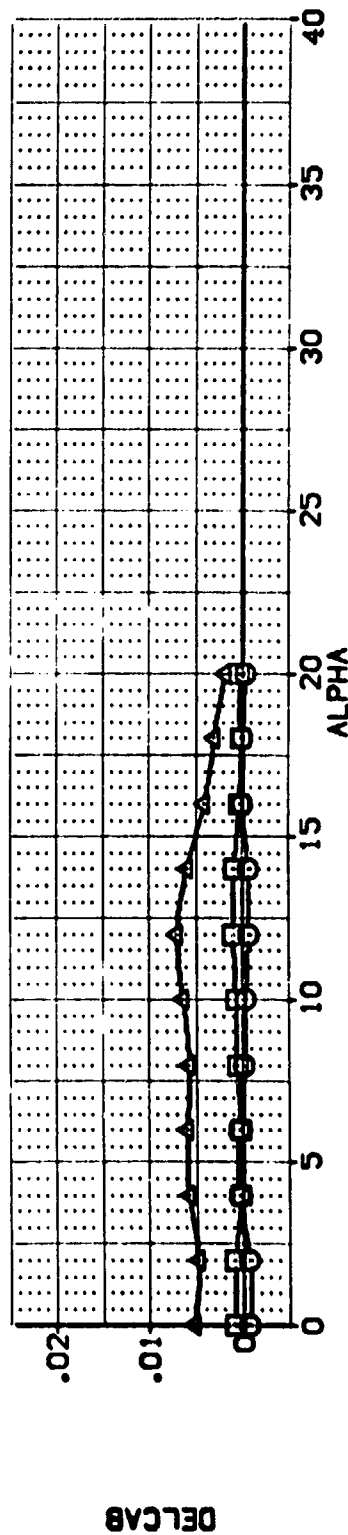
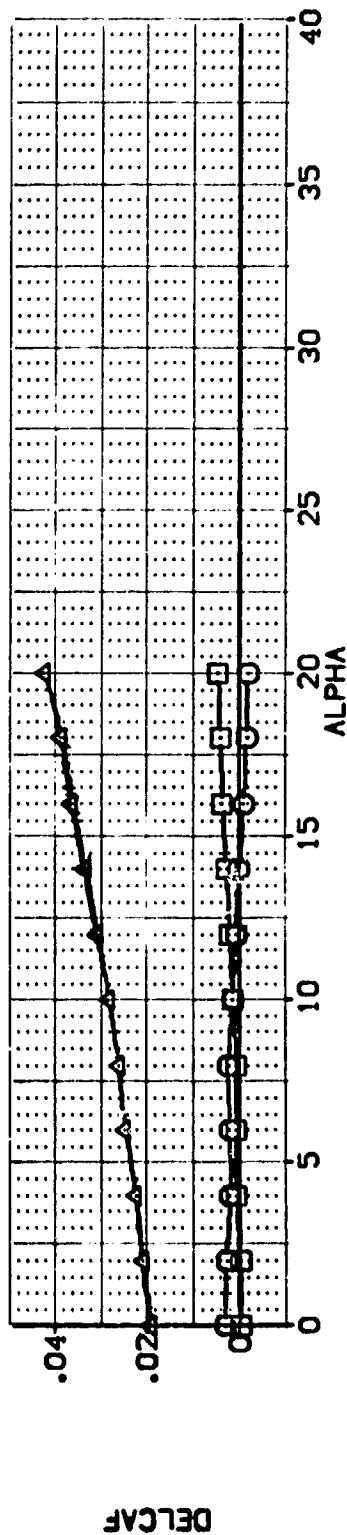
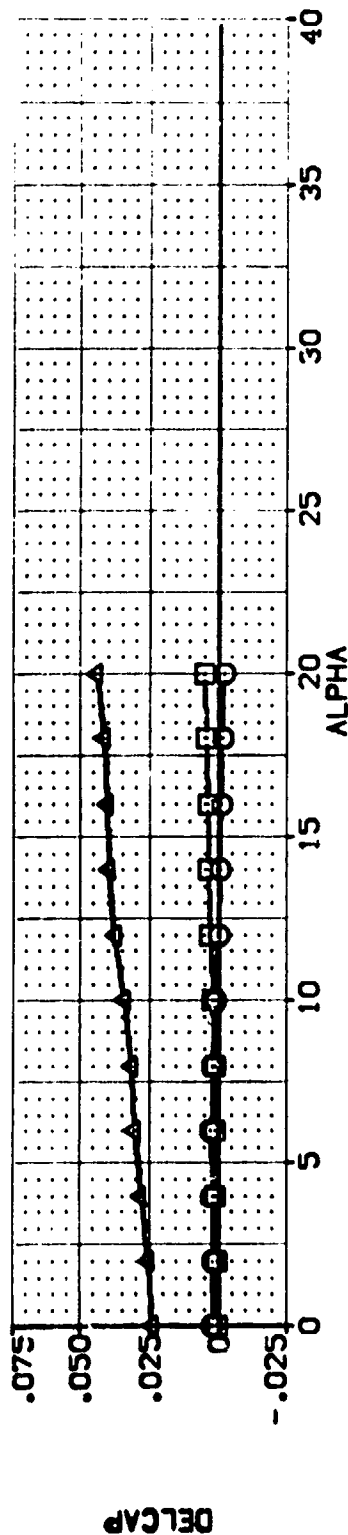
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)MACH = 1.20



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (M2000) { } MFC 581(0A45) DB 3A-0 (BOTH) (NE)(VR)
 (M2004) { } MFC 581(0A45) DB 3A-0 (BOTH) (NE)(VR)
 (M2107) { } DATA NOT AVAILABLE
 (M2005) { } MFC 581(0A45) DB 3A-0 (BOTH) (NE)(VR)

DELEVR 80FLAP 8708BK AILRON REFERENCE INFORMATION SQ. FT
 -4.310 -11.700 -1.630 SREF 2741.8000 IN.
 4.160 -11.700 -1.670 LREF 481.6480 IN.
 13.130 -11.700 -1.650 BREF 936.7000 IN.
 16.790 -11.700 -1.680 XREF 1081.3900 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

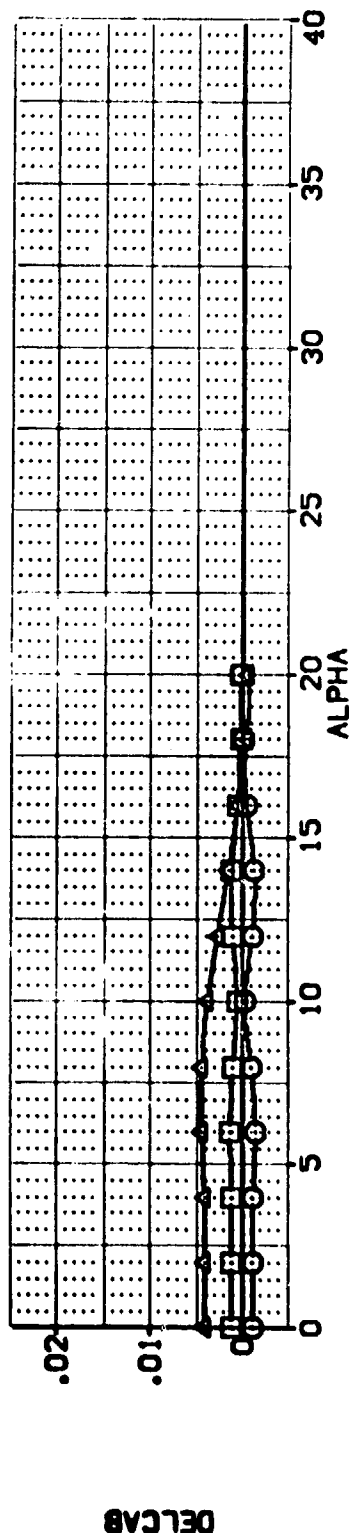
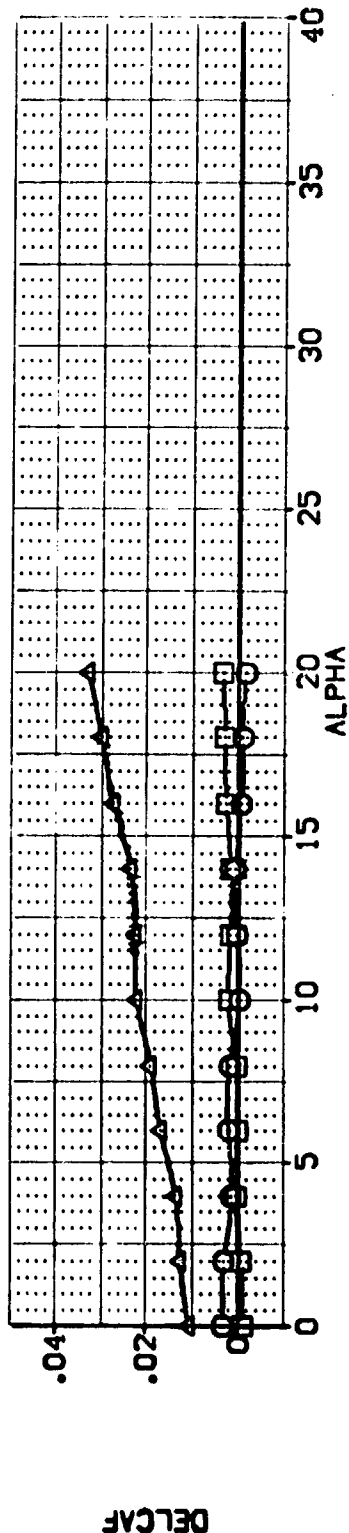
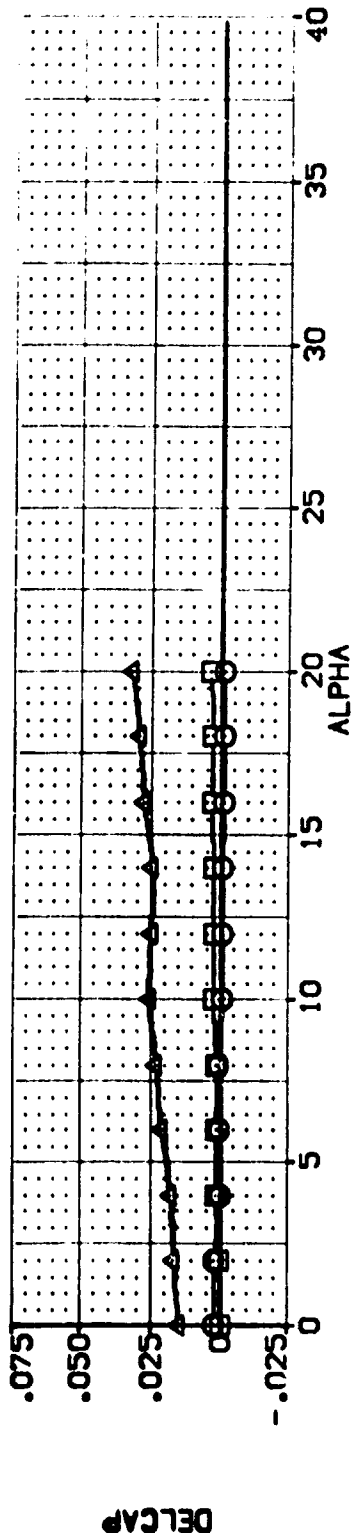


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)MACH = 1.46

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION: REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDCLAP	SPOBCK	AILCON	REFERENCE INFORMATION
MSFC 281(0A4S) 078 34-0 (BDFH) (VE)(VR)		-4.310	-11.700	23.550	-1.630	SREF 2741.8000 SQ. FT
MSFC 281(0A4S) 078 34-0 (BDFH) (VE)(VR)		4.160	-11.700	23.550	-1.670	LREF 481.6480 IN.
MSFC 281(0A4S) 078 34-0 (BDFH) (VE)(VR)		13.130	-11.700	23.550	-1.650	BREF 936.7000 IN.
DATA NOT AVAILABLE		16.750	-11.700	23.550	-1.680	XTRP 1081.3500 IN.
MSFC 281(0A4S) 078 34-0 (BDFH) (VE)(VR)						YTRP .0000 IN.
						ZTRP .0000 IN.
						SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)MACH = 1.95

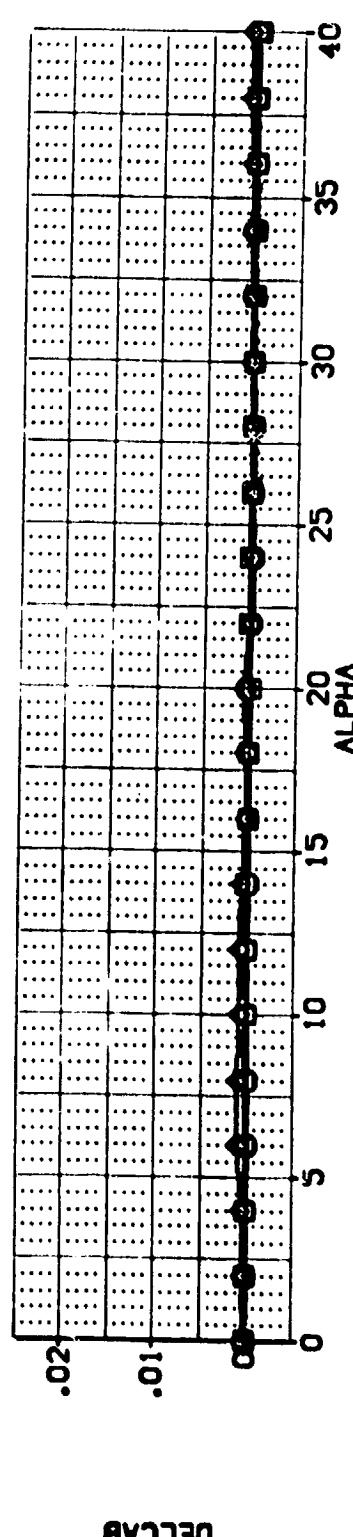
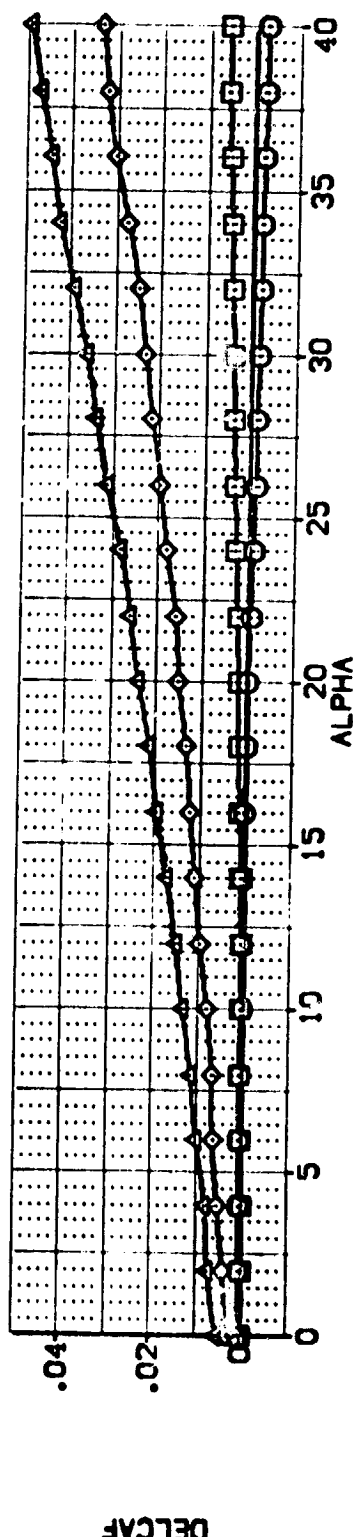
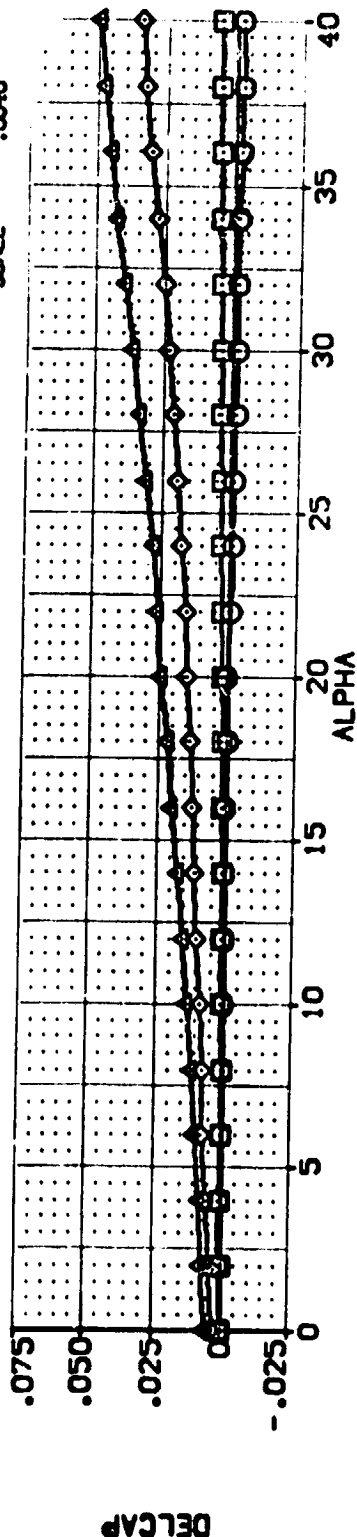


DATA SET SYMBOL CONFIGURATION DESCRIPTION

{H22003} MFC 581(OA4S) DB 3A-O (BOFM) (VE)(VR)
 {H22004} MFC 581(OA4S) DB 3A-O (BOFM) (VE)(VR)
 {H22107} MFC 581(OA4S) DB 3A-O (BOFM) (VE)(VR)
 {H22005} MFC 581(OA4S) DB 3A-O (BOFM) (VE)(VR)

DELEV R BDFLAP SPOBWK AILRON
 -1.310 -11.700 23.500 -1.630
 4.160 -11.700 23.500 -1.670
 13.130 -11.700 23.500 -1.650
 16.790 -11.700 23.500 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT.
 LREF 481.6480 IN.
 BREF 935.7000 IN.
 XHP 1081.3800 IN.
 YHP .0000 IN.
 ZHP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(F)MACH = 2.99

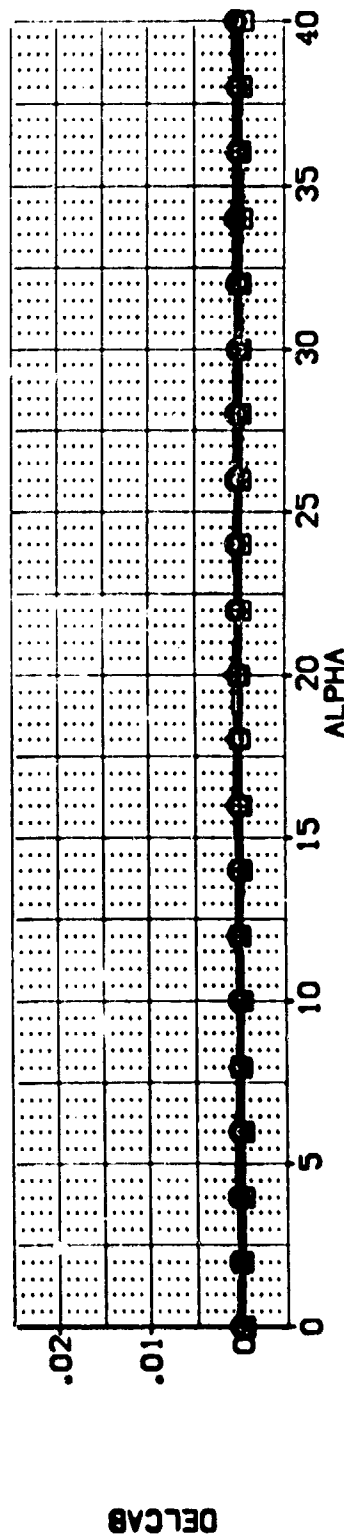
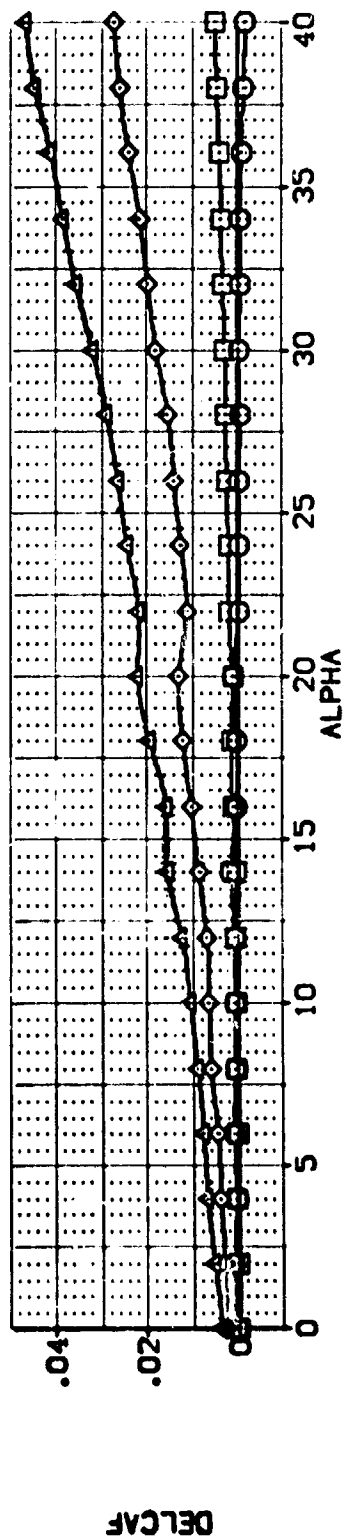
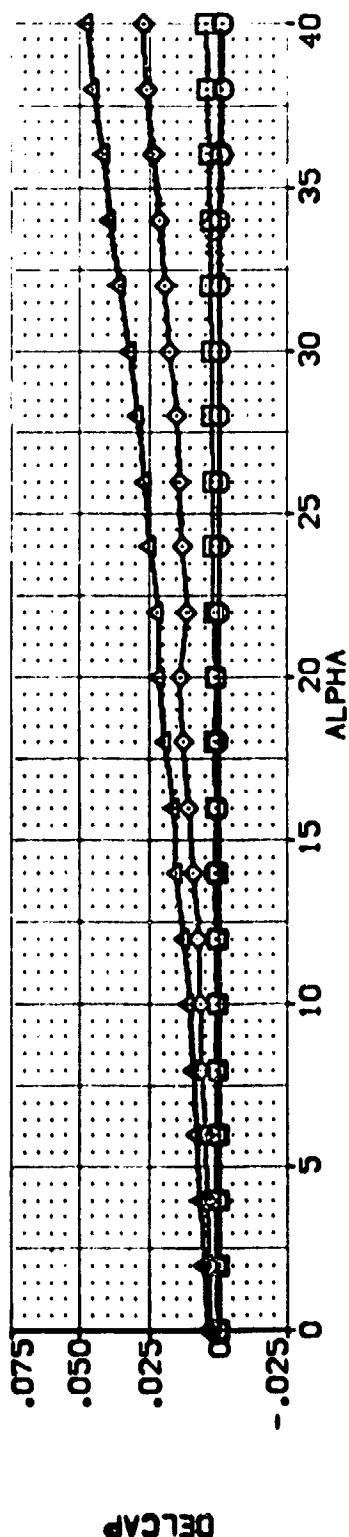
DATA SET SYMBOL

HE2003
HE2004
HE2107
HE2005

CONFIGURATION DESCRIPTION
HE2C 381(0A45) DB 3A-0 (BDH) (VE)(VR)
HE2C 381(0A45) DB 3A-0 (BDH) (VE)(VR)
HE2C 381(0A45) DB 3A-0 (BDH) (VE)(VR)
HE2C 381(0A45) DB 3A-0 (BDH) (VE)(VR)

DELEV BDCLAP SPDRK AIRDRN
-4.310 -11.700 25.550
4.160 -11.700 25.550
13.130 -11.700 25.550
16.750 -11.700 25.550

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 491.6480 IN.
BREF 536.7000 IN.
XREF 1081.3000 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0040



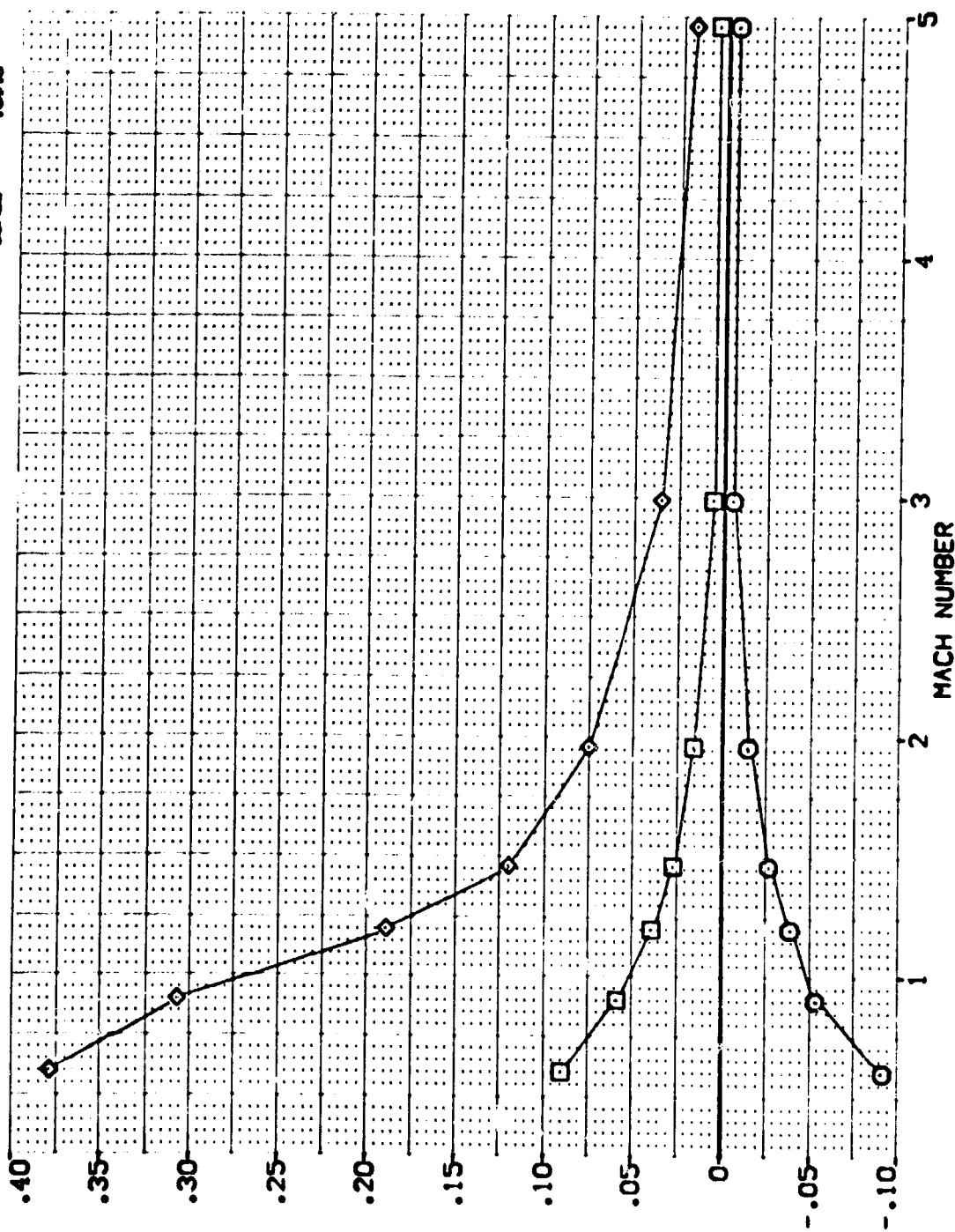
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(G)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (582003) MSFC 581 (DA45) 08B 34-0 (BCFM) (VE)(VR)
 (582004) MSFC 581 (DA45) 08B 34-0 (BCFM) (VE)(VR)
 (582005) MSFC 581 (DA45) 08B 34-0 (BCFM) (VE)(VR)

DELEV R BDFLAP SPDRK AILRON
 -4.310 -11.700 25.550 -1.630
 4.160 -11.700 25.550 -1.670
 16.750 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7700 IN.
 XREF 1081.3600 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

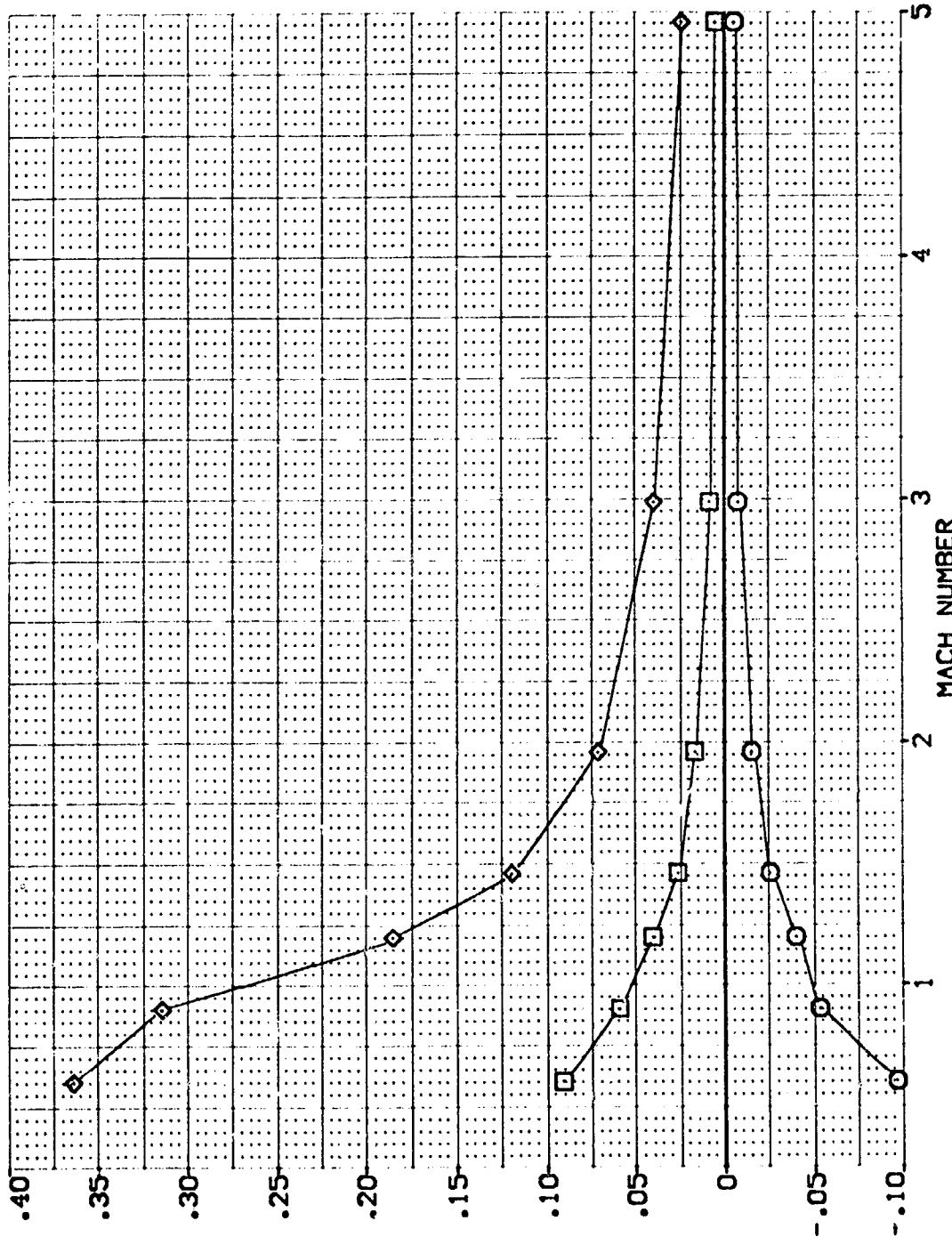
(A) ALPHA = .00

DATA SET SYMBOL
 {552003}
 {552004}
 {552005}

CONFIGURATION DESCRIPTION
 HSC 581(OA49) ORB 34-0 (BOCH) {WE}{VR}
 HSC 581(OA49) ORB 34-0 (BOCH) {WE}{VR}
 HSC 581(OA49) ORB 34-0 (BOCH) {WE}{VR}

DELEVR BOFLAP SPOBRK AILRON
 -4.310 -11.700 25.550 -1.630
 4.160 -11.700 25.550 -1.670
 16.790 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



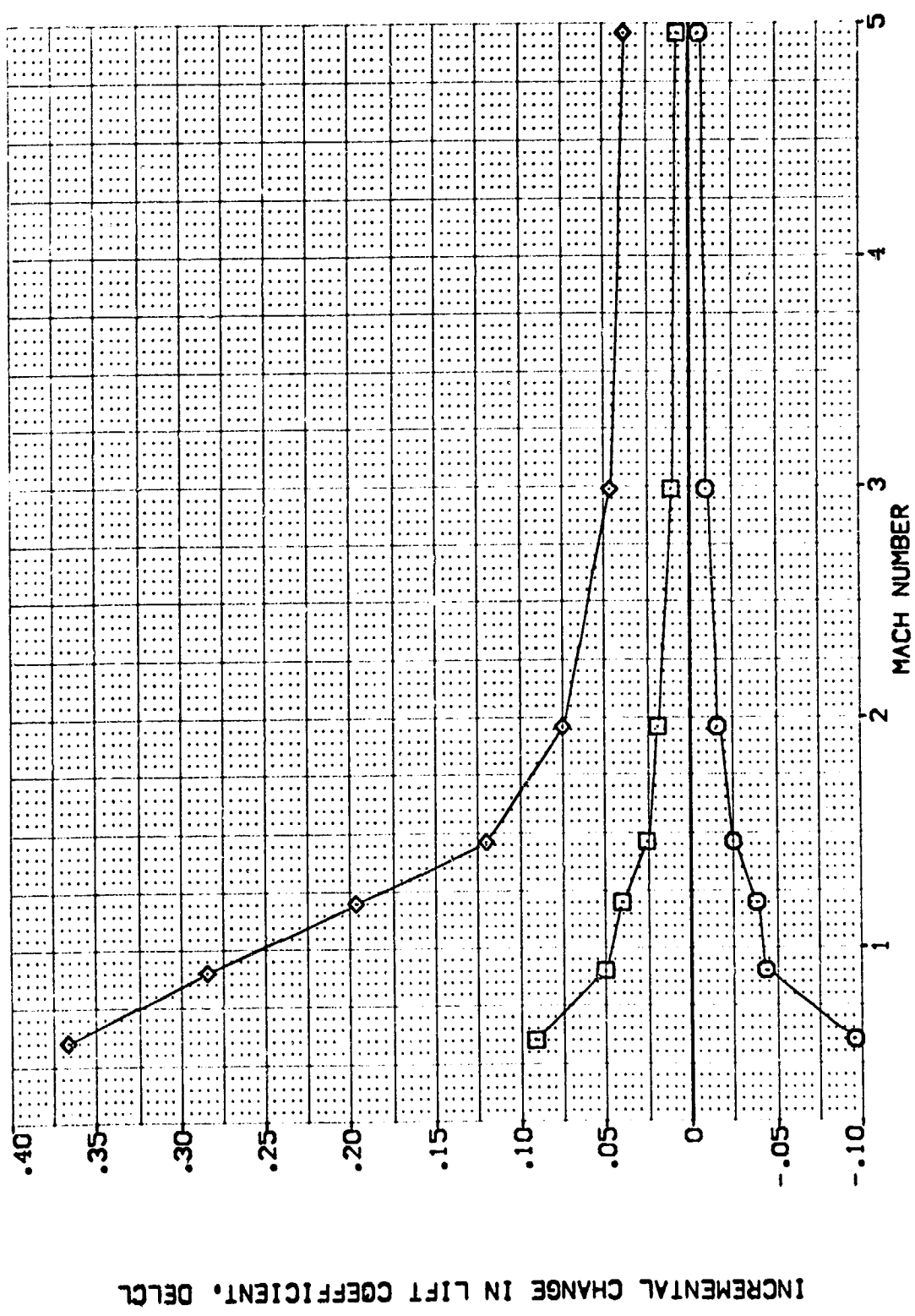
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 5.00



DATA SET SYMBOL: {592003} {592004} {592005}
 CONFIGURATION DESCRIPTION: MSFC S81(DA49) DBB 34-0 (BOFM) (NE)(VR) MSFC S91(DA49) DBB 34-0 (BOFM) (NE)(VR) MSFC S81(DA49) DBB 34-0 (BOFM) (NE)(VR)
 DELEV: -4.310 4.160 16.790
 BOFLAP: -11.700 -11.700 -11.700
 SPDBK: 25.550 25.550 25.550
 AILON: -.630 -.670 -1.680
 REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 936.7000 IN. XREF 1081.3900 IN. YREF .0000 IN. ZREF .0000 IN. SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)ALPHA = 10.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

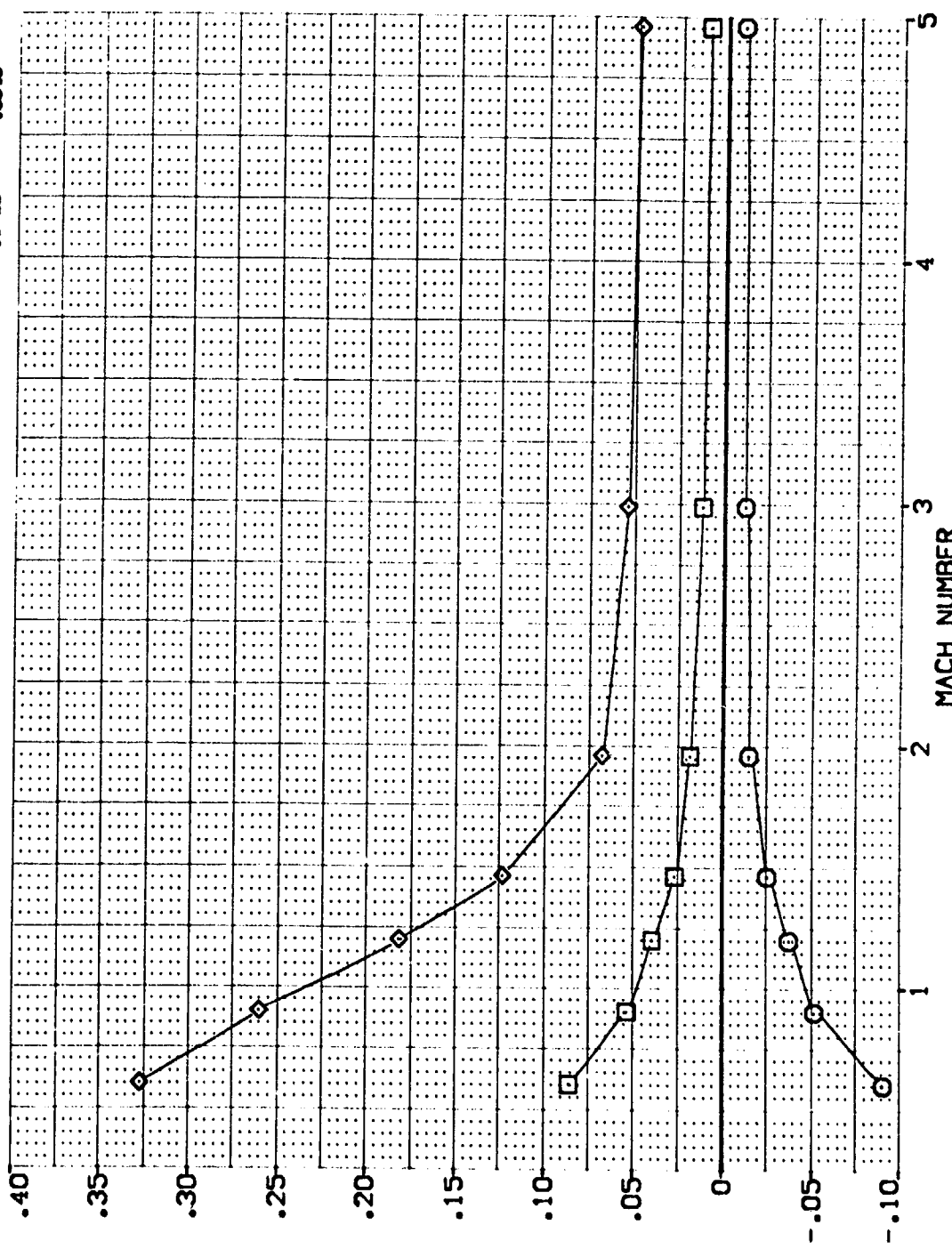
SYMBOL	DESCRIPTION
592003	MSFC 581(0A19) DB 34-0 (BOFH) (VE)(VR)
592004	MSFC 581(0A19) DB 34-0 (BOFH) (VE)(VR)
592005	MSFC 581(0A19) DB 34-0 (BOFH) (VE)(VR)

DELEVR BOFLAP SPOBRK AILRON

DELEVR	BOFLAP	SPOBRK	AILRON
-4.310	-11.700	25.550	-0.630
4.160	-11.700	25.550	-0.670
16.790	-11.700	25.550	-1.680

REFERENCE INFORMATION

SRF	SRF	SRF
2741.8000	2741.8000	50. FT
481.6480	481.6480	IN.
936.7000	936.7000	IN.
1081.3800	1081.3800	IN.
0.0000	0.0000	IN.
0.0000	0.0000	IN.
0.0040	0.0040	IN.



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(CO)ALPHA = 15.00

DATA SET SYMBOL: {592003} {592004} {592005}

CONFIGURATION DESCRIPTION: MSFC 501(0A49) DB 3A-0 (BCFM) (VE)(VR) MSFC 501(0A49) DB 3A-0 (BCFM) (VE)(VR) MSFC 501(0A49) DB 3A-0 (BCFM) (VE)(VR)

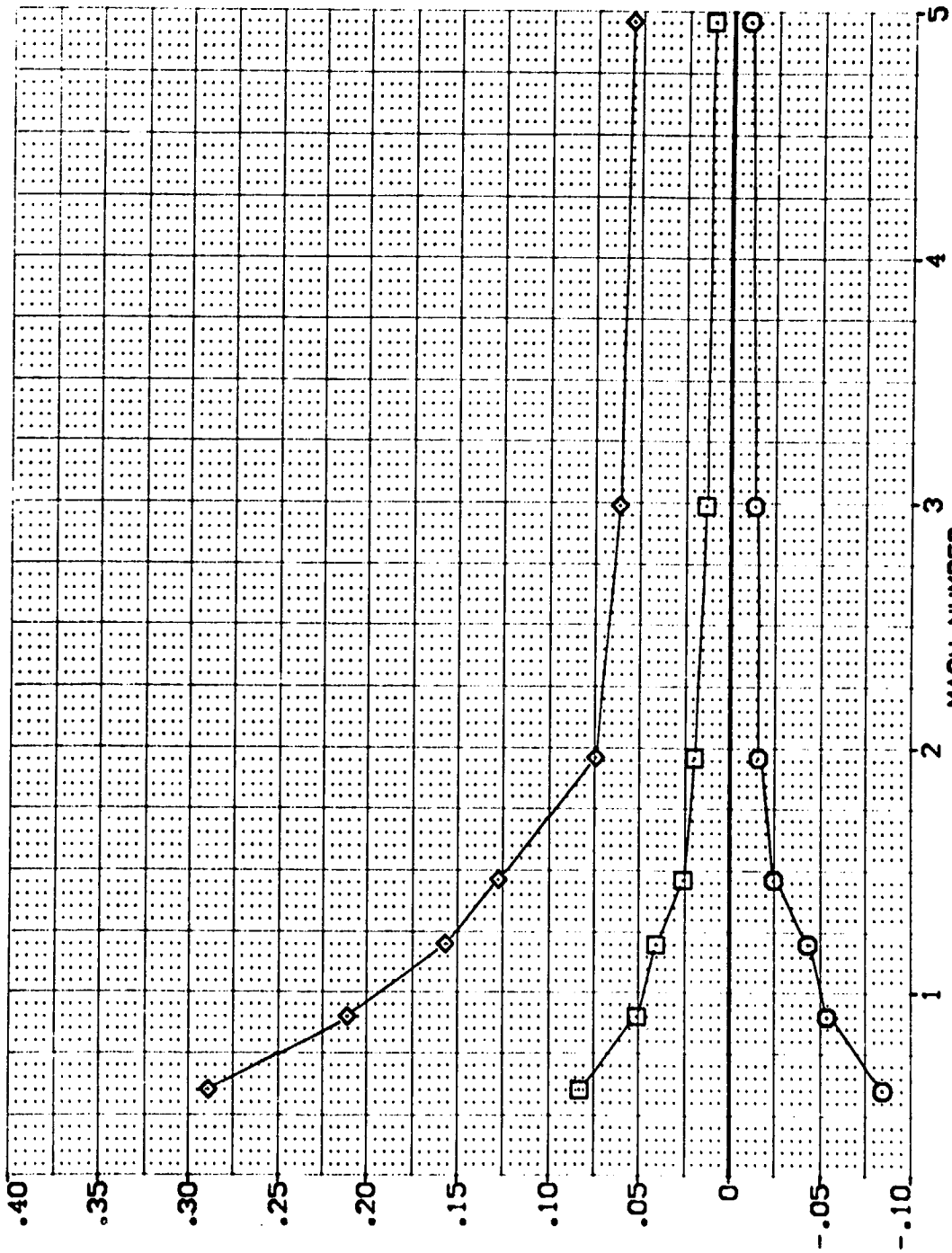
DELEVR: -4.310 4.160 16.790

BOFLAP: -11.700 -11.700 -11.700

SPOBRK: 25.550 25.550 25.550

AILRON: -0.630 -0.670 -1.680

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT LREF 481.6480 IN. BREF 936.7000 IN. XMRP 1081.3900 IN. YMRP 0.0000 IN. ZMRP 0.0000 IN. SCALE 0.0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA CL

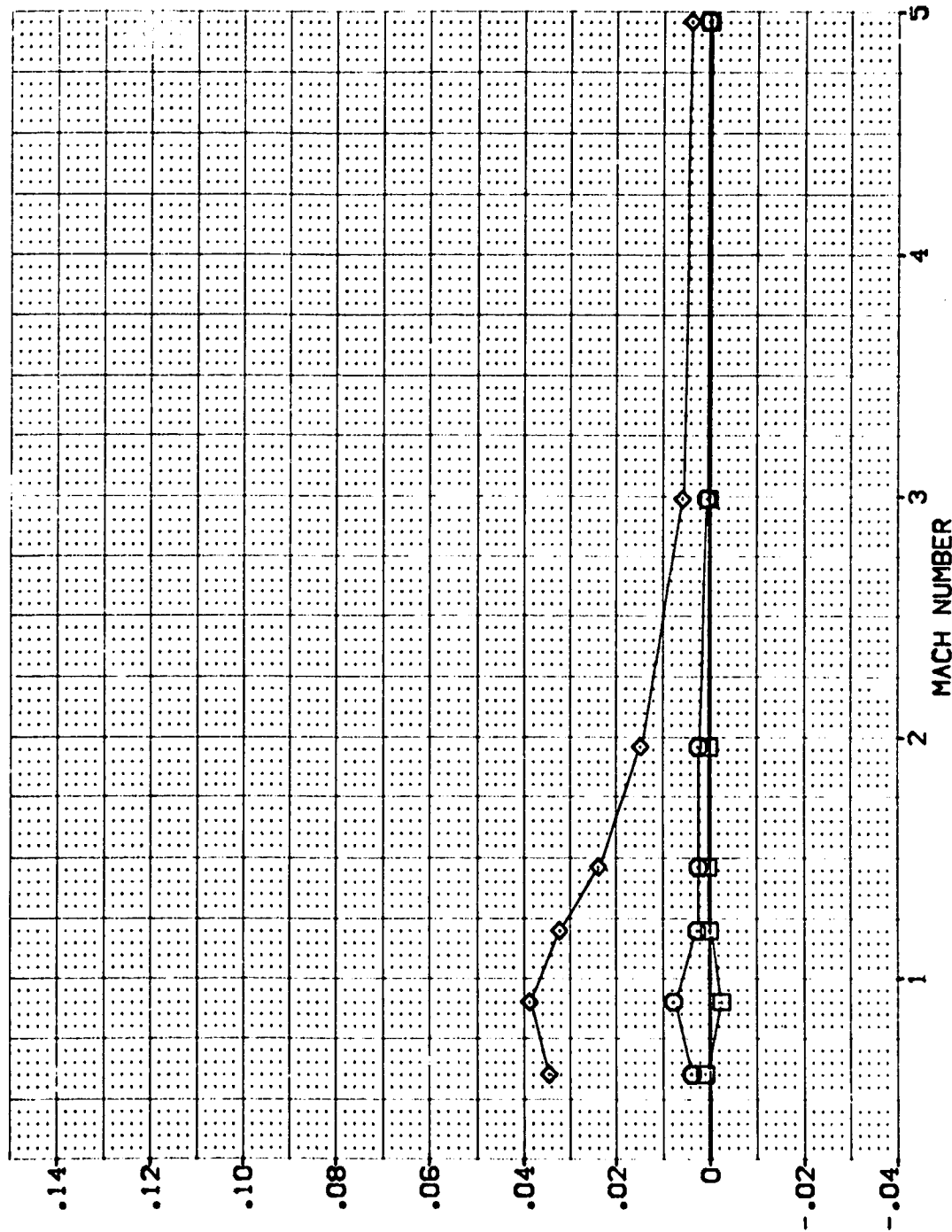
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)ALPHA = 20.00



(A)ALPHA = .00

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

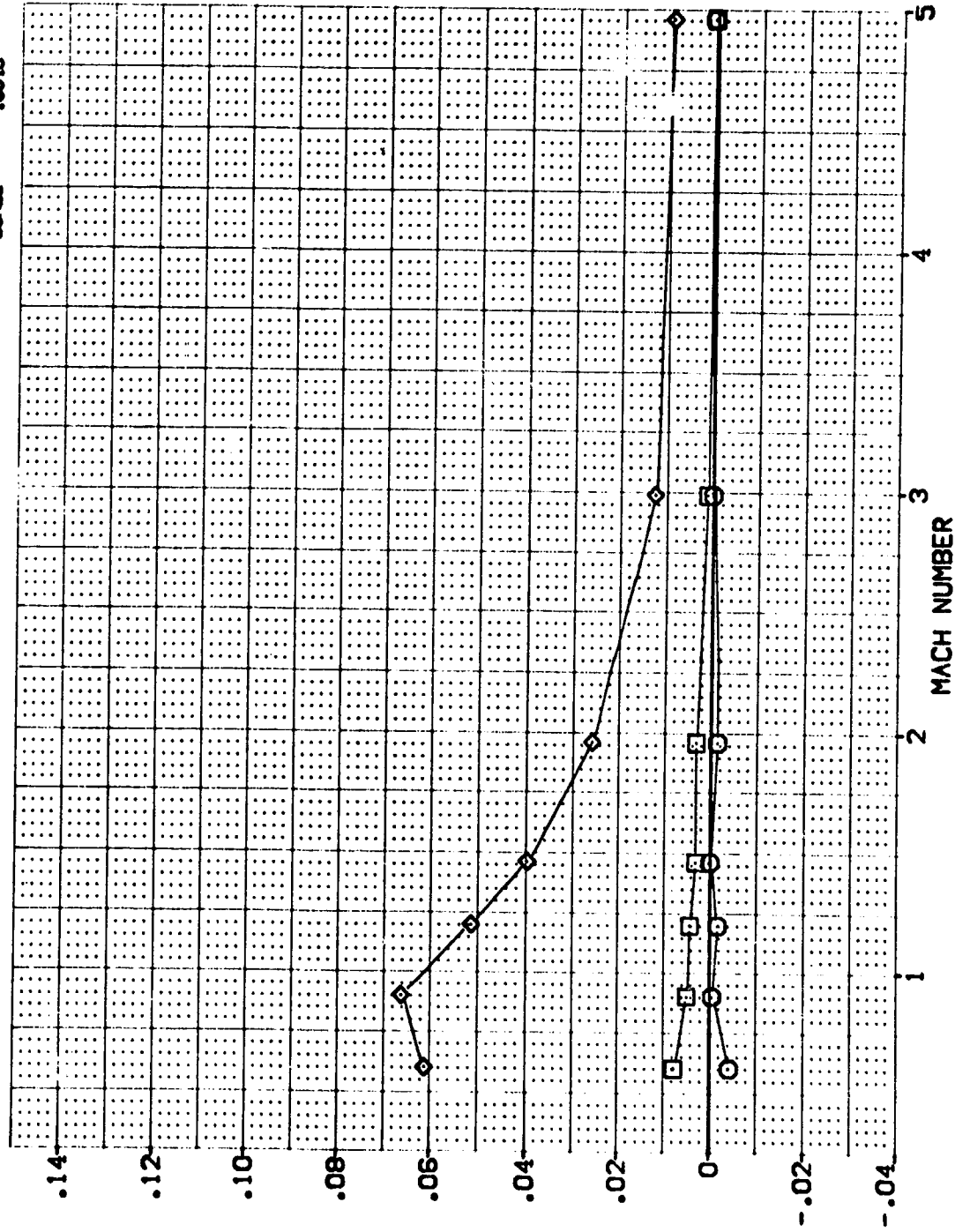
DATA SET SYMBOL: 1000
[502003] [502004] [502005]
CONFIGURATION DESCRIPTION: 34-0 (BCFH) (VE)(VR)
[502003] [502004] [502005]
DELEV: -4.310 4.160 16.750
BOFLAP: -11.700 -11.700 -11.700
SPDRK: 25.550 23.550 23.550
AILRON: -.630 -.670 -1.680
REFERENCE INFORMATION: 2741.8000 50. FT
SREF: 481.6480 IN.
LREF: 536.7000 IN.
BREF: 1081.3500 IN.
XMRP: .0000 IN.
YMRP: .0000 IN.
ZMRP: .0000 IN.
SCALE: .0040

DATA SET SYMBOL CONFIGURATION DESCRIPTION

MSFC 581 (0A49) DB 34-0 (BCFM) (VE) (VR)
 MSFC 581 (0A49) DB 34-0 (BCFM) (VE) (VR)
 MSFC 581 (0A49) DB 34-0 (BCFM) (VE) (VR)

DELEV R BDFLAP SPDRK AILRON
 -4.310 -11.700 25.550 -530
 4.150 -11.700 25.550 -670
 16.790 -11.700 25.550 -1.680


REFERENCE INFORMATION
 SREF 2741.8000 80. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 5.00

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION:
 {592003} MSTC 581(OA19) OFB 34-0 (BOTH) (VE)(VR)
 {592004} MSTC 581(OA19) OFB 34-0 (BOTH) (VE)(VR)
 {592005} MSTC 581(OA19) OFB 34-0 (BOTH) (VE)(VR)

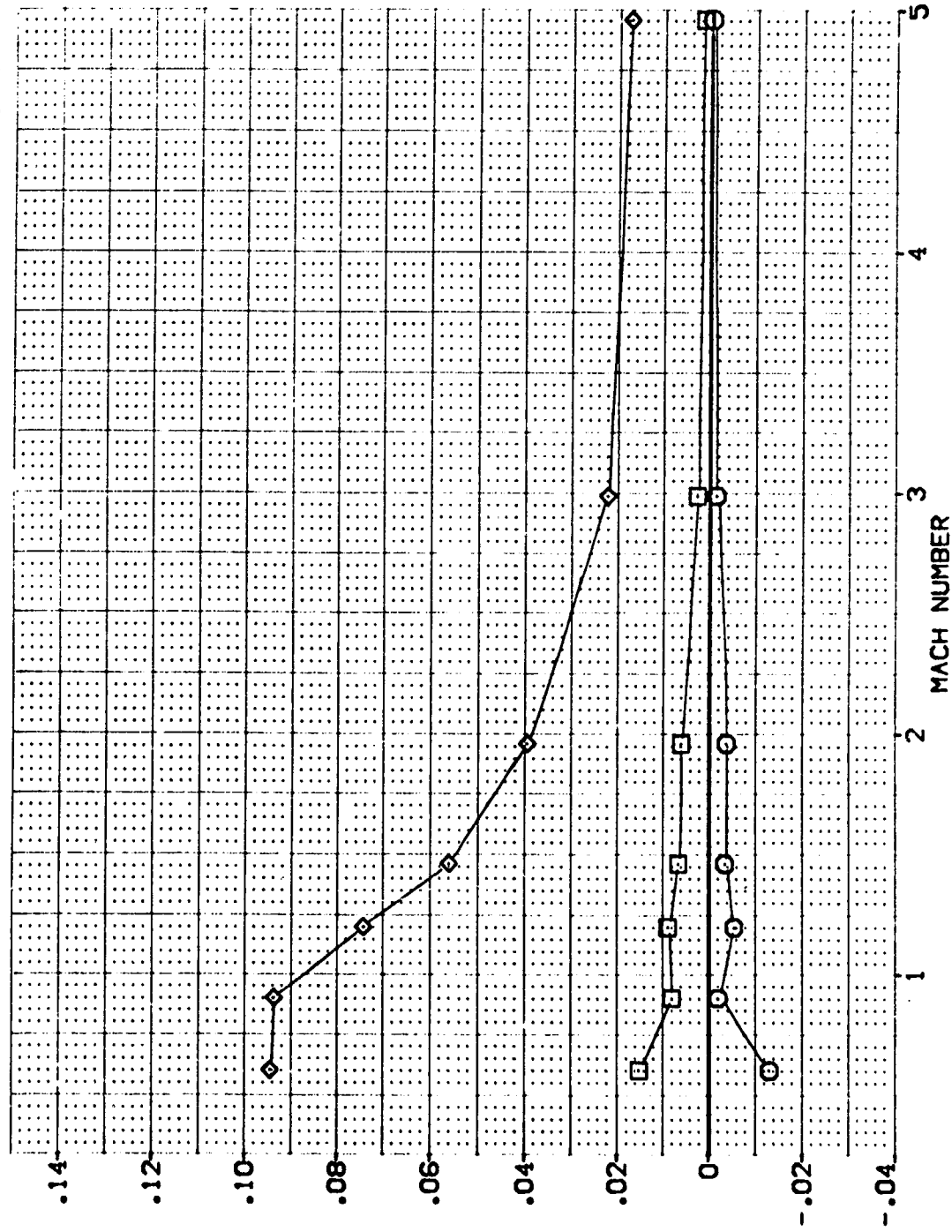
DELEVR -4.310 -11.700
 4.160 -11.700
 16.790 -11.700

SPDRK -1.680
 25.550
 25.550

ALLRON -1.680
 -1.670
 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XTRP 1081.3500 IN.
 YTRP .0000 IN.
 ZTRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

{CJALPHA = 10.00



DATA SET SYMBOL: [592003] [592004] [592005]

CONFIGURATION DESCRIPTION: MSFC 591(CA49) DB 34-0 (BDTH) (VE)(VR) MSFC 591(CA49) DB 34-0 (BDTH) (VE)(VR) MSFC 591(CA49) DB 34-0 (BDTH) (VE)(VR)

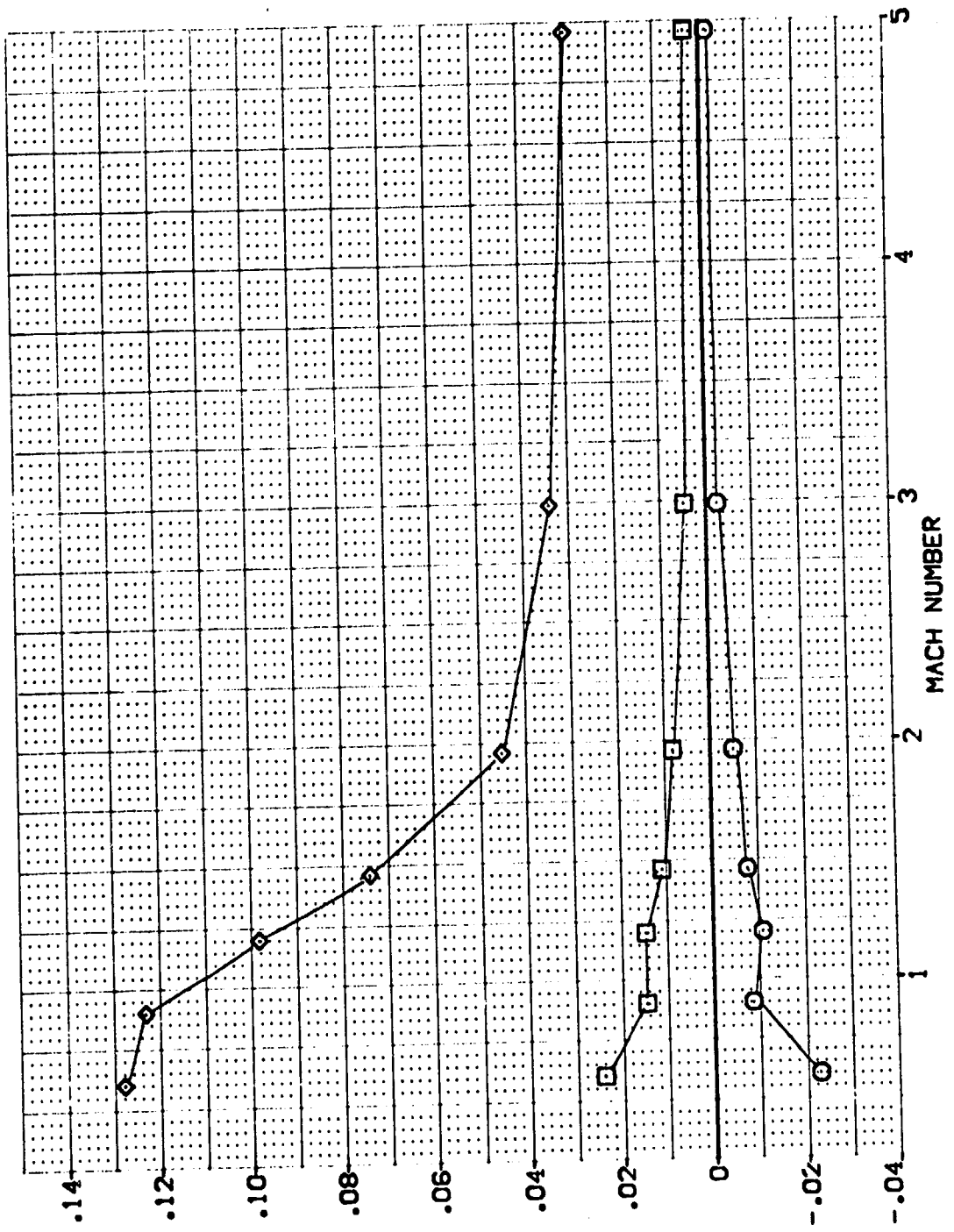
DELEVR: -4.310 4.160 16.750

BOFLAP: -11.700 -11.700 -11.700

SPOBRK: 25.550 25.550 25.550

AILRON: -.530 -.670 -1.680

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 491.6480 IN. BREF 936.7000 IN. XMRP 1091.3500 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040

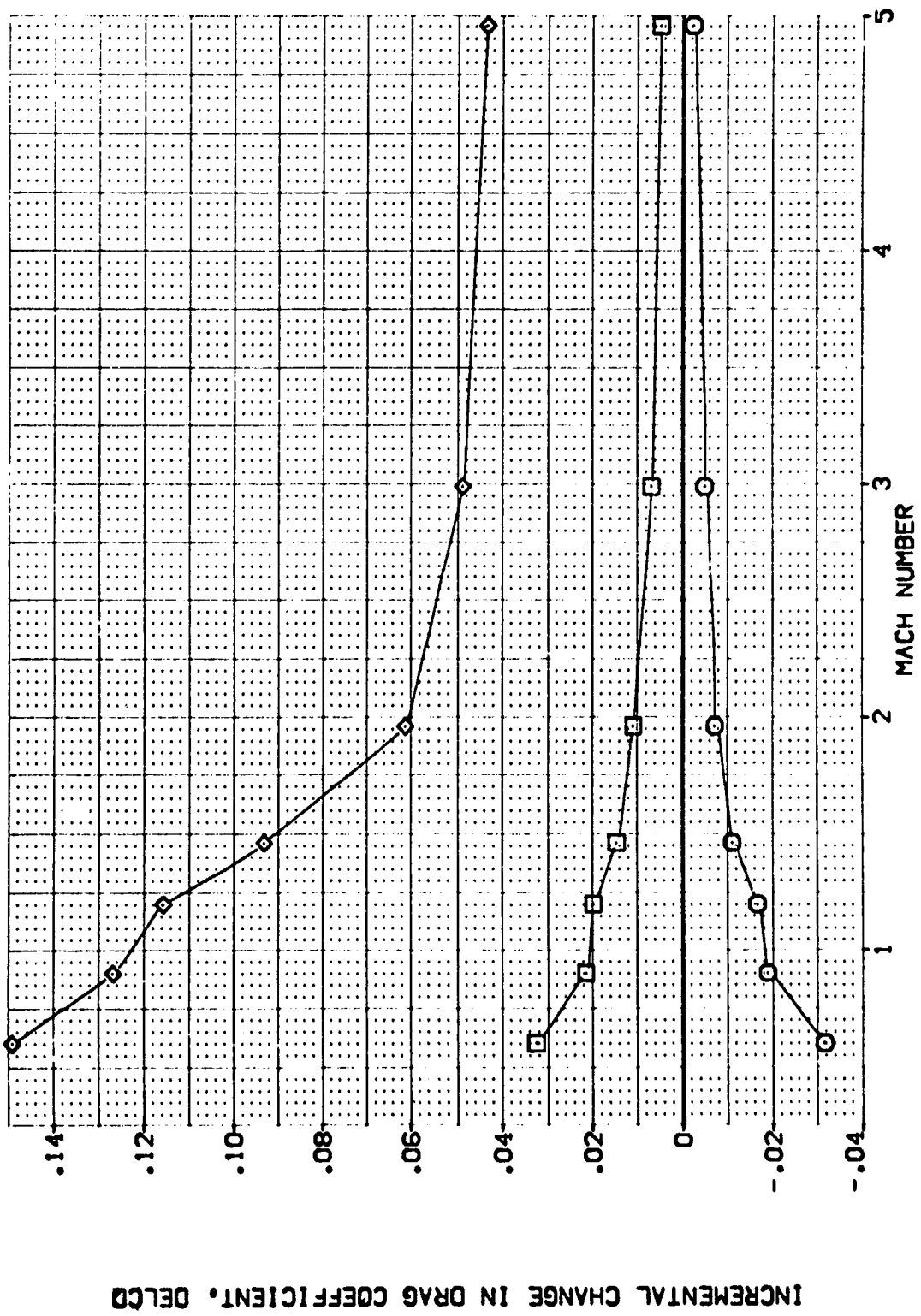


INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D) ALPHA = 15.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPDRK	AILRON	REFERENCE INFORMATION			
(592003)	MSFC 531(0A19) 0B3 34-0 (BOPH) (VE)(VR)	-4.310	-11.700	25.550	-.630	SREF	2741.8000	SO. FT	
(592004)	MSFC 531(0A19) 0B3 34-0 (BOPH) (VE)(VR)	4.160	-11.700	25.550	-.670	LREF	491.6480	IN.	
(592005)	MSFC 531(0A19) 0B3 34-0 (BOPH) (VE)(VR)	16.790	-11.700	25.550	-1.680	BREF	936.7000	IN.	
						XREF	1081.3000	IN.	
						YREF	.0000	IN.	
						ZREF	.0000	IN.	
						SCALE	.0040	IN.	

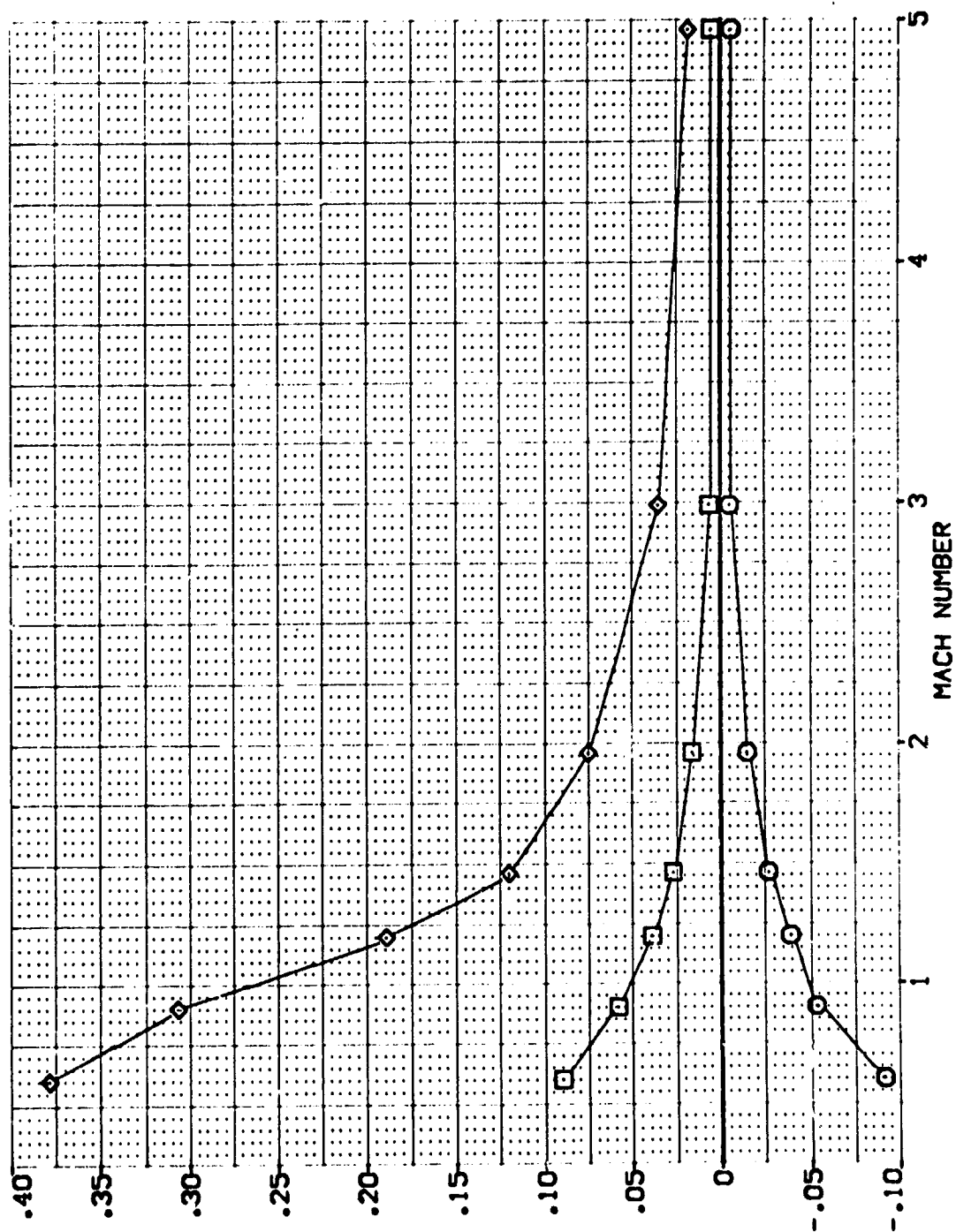


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)
(E)ALPHA = 20.00



DATA SET SYMBOL: [582003] [582004] [582005]
 CONFIGURATION DESCRIPTION: MSFC 581(CA49) 088 34-0 (BDPH) (VE)(VR) MSFC 581(CA49) 088 34-0 (BDPH) (VE)(VR) MSFC 581(CA49) 088 34-0 (BDPH) (VE)(VR)
 DELEV: -4.310 4.160 16.750
 BDFLAP: -11.700 -11.700 -11.700
 SPOBRK: 25.550 25.550 25.550
 AIRBN: -1.530 -1.570 -1.680
 REFERENCE INFORMATION: SREF 2741.6000 SQ. FT. LREF 481.6480 IN. BREF 936.7000 IN. XPRP 1081.3500 IN. YPRP .0000 IN. ZPRP .0000 IN. SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

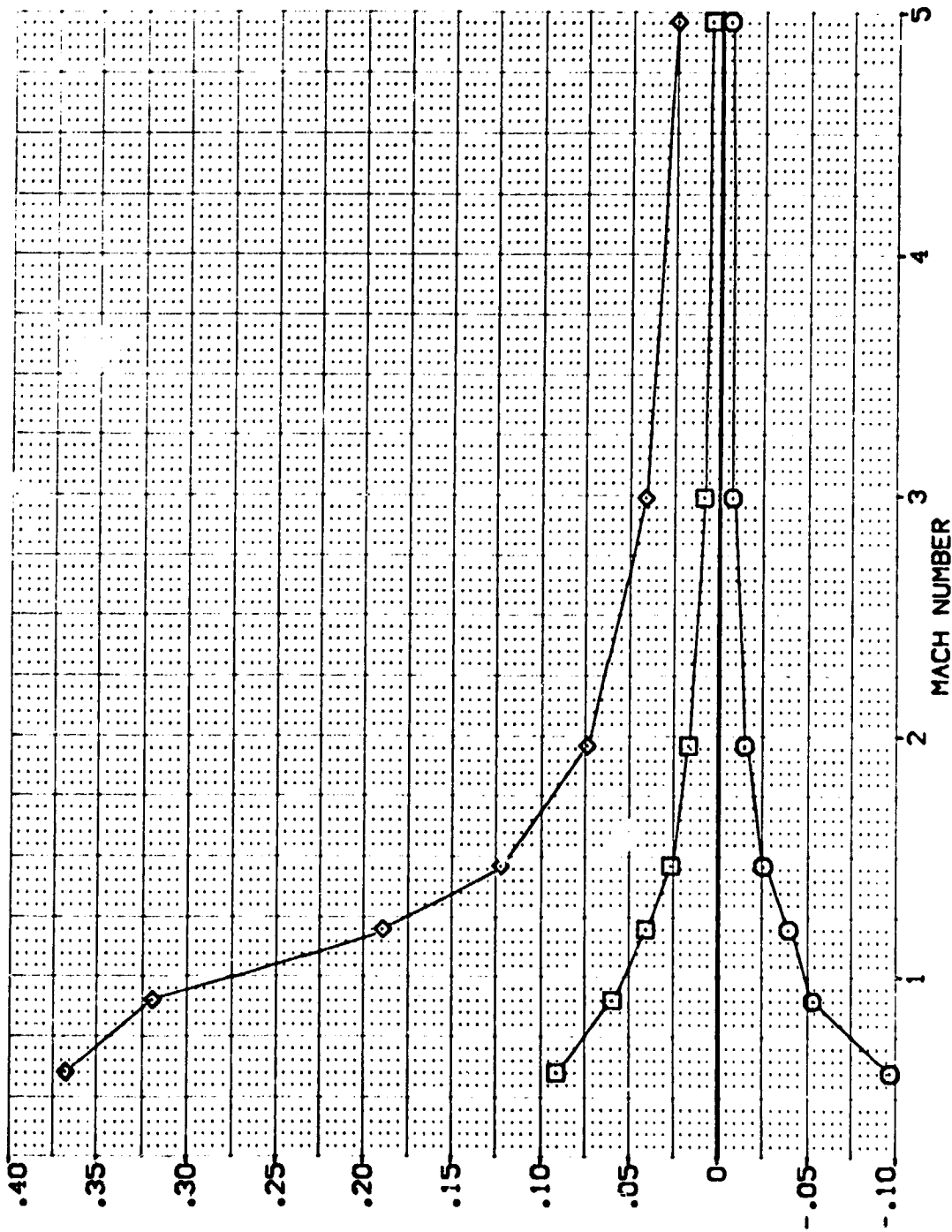
CAJALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (592003) HSTC 581(OA19) ORB 34-0 (BDTH) (VE)(VR)
 (592004) HSTC 581(OA19) ORB 34-0 (BDTH) (VE)(VR)
 (592005) HSTC 581(OA19) ORB 34-0 (BDTH) (VE)(VR)

DELEVR BDCLAP SPDBRK ALLCON
 -4.310 -11.700 25.550 -1.520
 4.330 -11.700 23.550 -1.670
 16.750 -11.700 23.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XTRP 1081.3900 IN.
 YTRP .0000 IN.
 ZTRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

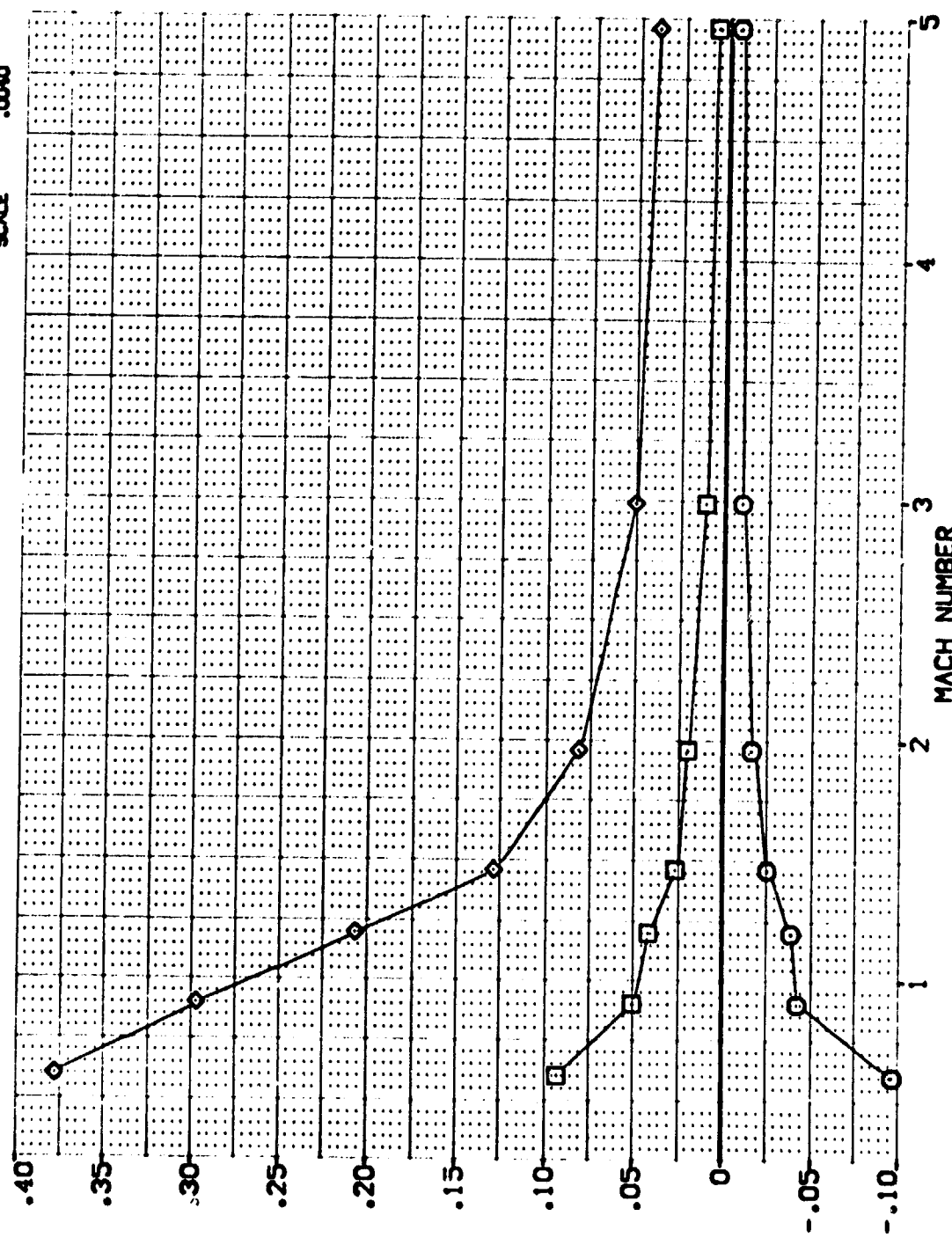


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION
 (S92003) (S92003) (S92003) (S92003) (S92003) (S92003) (S92003) (S92003)
 (S92004) (S92004) (S92004) (S92004) (S92004) (S92004) (S92004) (S92004)
 (S92005) (S92005) (S92005) (S92005) (S92005) (S92005) (S92005) (S92005)

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



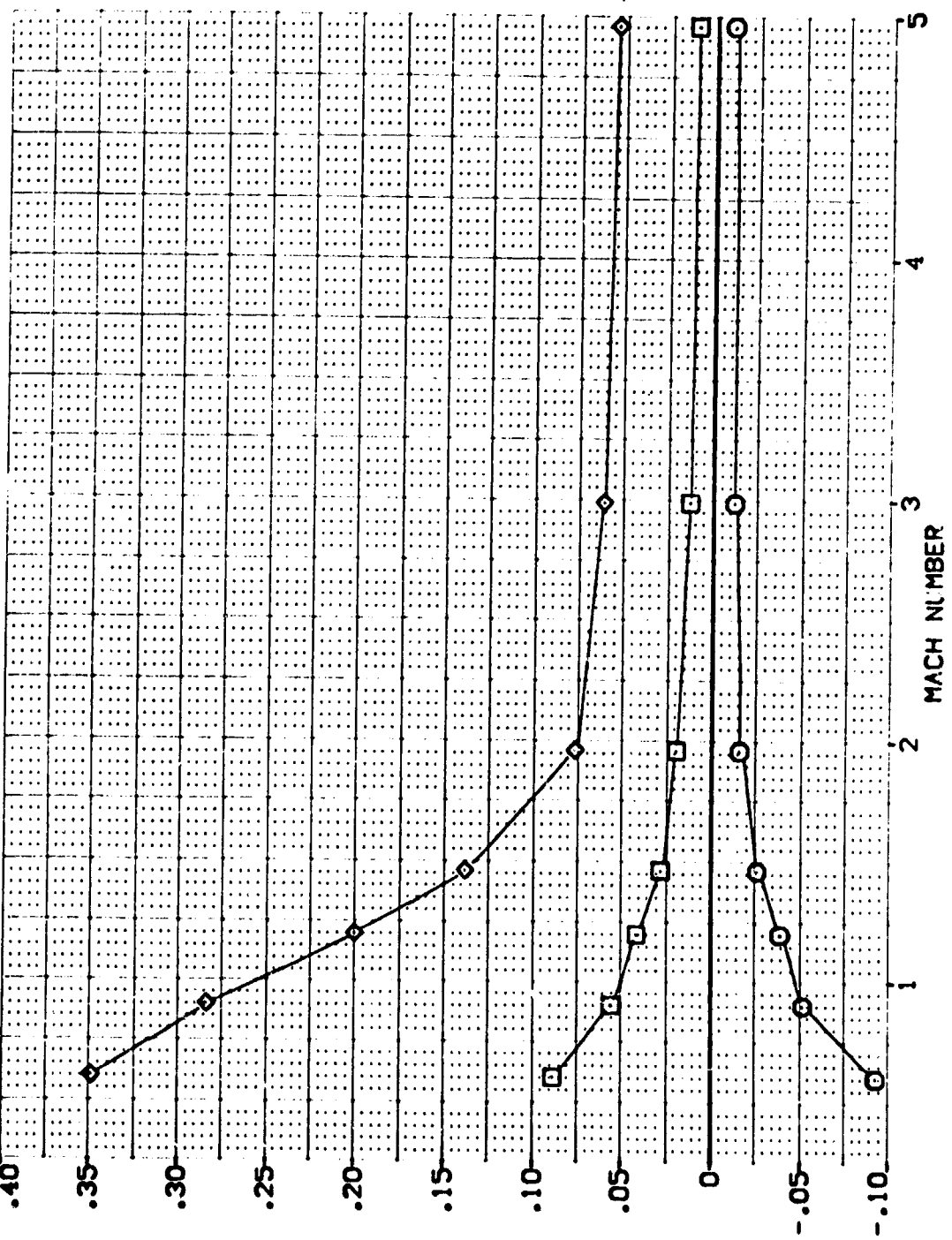
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)ALPHA = 10.00



INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

DATA SET SYMBOL: 552003, 552004, 552005
CONFIGURATION DESCRIPTION: MSFC 581(OA43) OSB 34-0 (BDFH) (VE)(VR), MSFC 581(OA43) OSB 34-0 (BDFH) (VE)(VR), MSFC 581(OA43) OSB 34-0 (BDFH) (VE)(VR)
DELEV: -4.310, 4.160, 16.750
BDFLAP: -11.700, -11.700, -11.700
SPDSBK: 25.550, 25.550, 25.550
AILRON: -.600, -.670, -1.680
REFERENCE INFORMATION: SREF: 2741.8000 SQ: FT, LREF: 481.6480 IN: IN, BREF: 935.7000 IN: IN, XPRP: 1081.3000 IN: IN, YPRP: .0000 IN: IN, ZPRP: .0040 IN: IN, SCALE: .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEV(N))

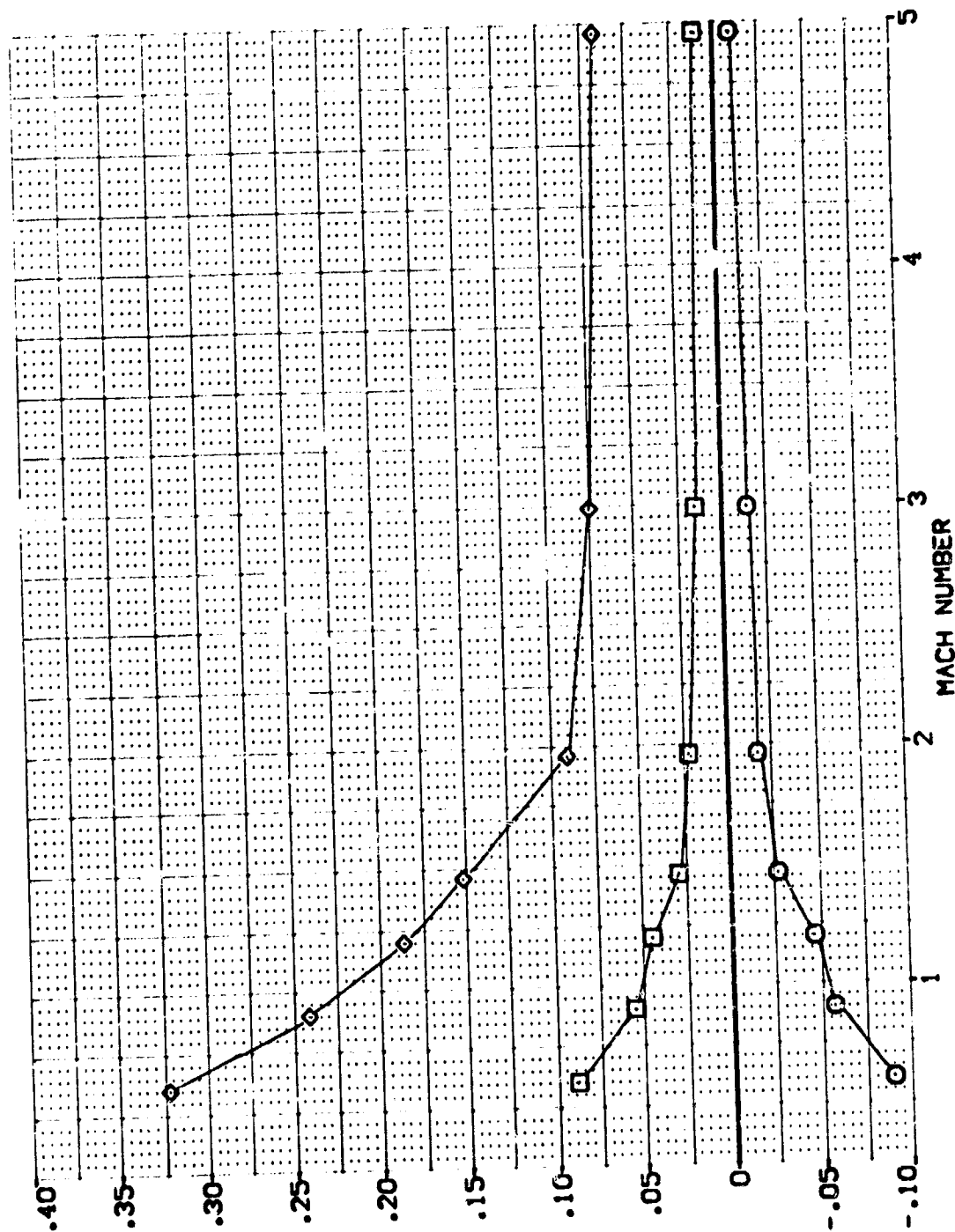
(O)ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (582000) MS-C 581 (0419) 028 34-0 (BDH) (VE) (VR)
 (582001) MS-C 581 (0419) 028 34-0 (BDH) (VE) (VR)
 (582002) MS-C 581 (0419) 028 34-0 (BDH) (VE) (VR)
 (582003) MS-C 581 (0419) 028 34-0 (BDH) (VE) (VR)

DELEV R BDCLAP SPDRBK AILRON
 -4.310 -11.700 25.550 -0.720
 4.160 -11.700 23.550 -0.670
 16.790 -11.700 23.550 -1.680



REFERENCE INFORMATION
 SREF 2741.0000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.000 IN.
 XREF 1081.000 IN.
 YREF 0.000 IN.
 ZREF 0.000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



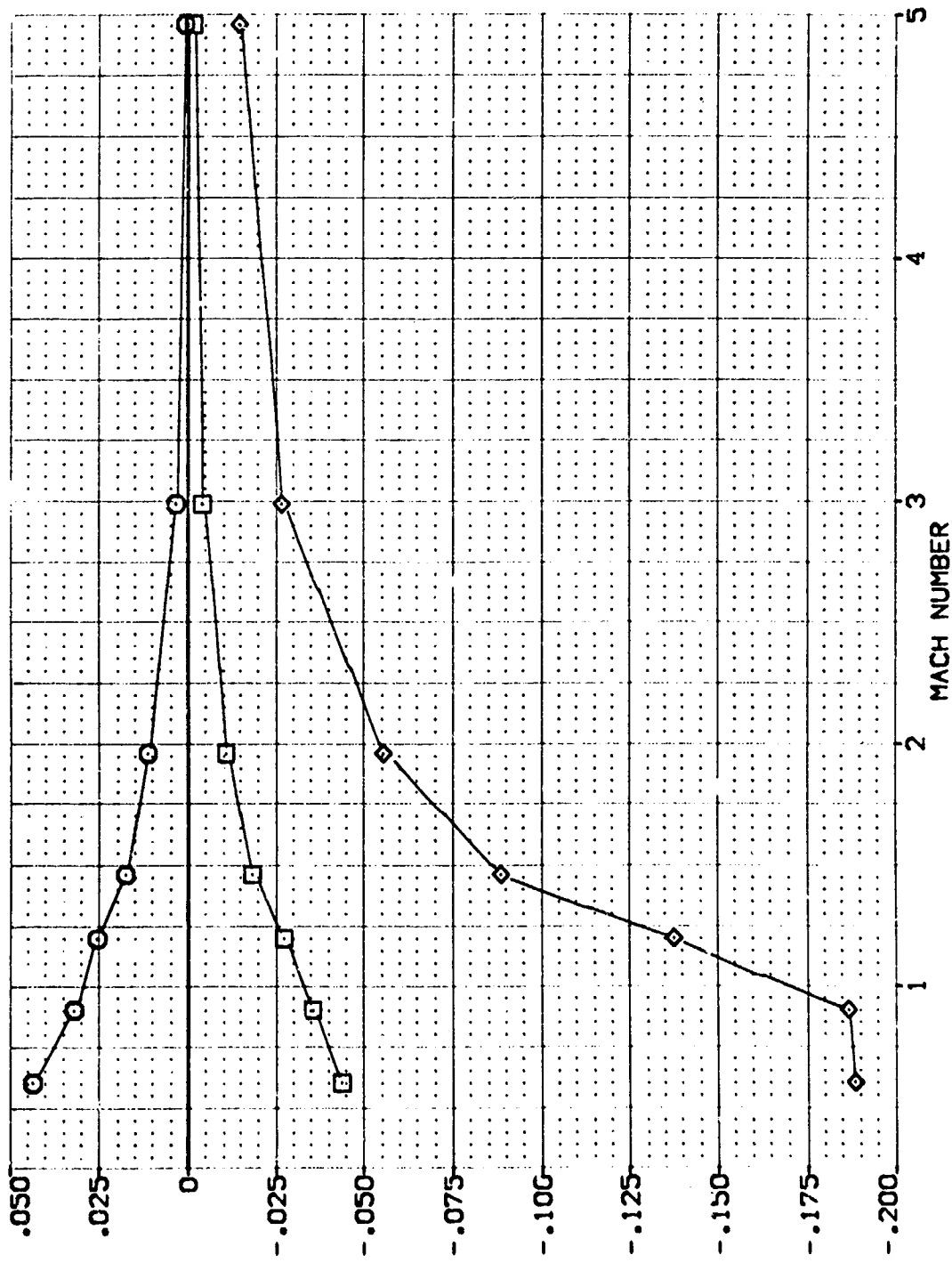
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)
 (E)ALPHA = 20.00

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

DATA SET SYMBOL:   CONFIGURATION DESCRIPTION:
 MSFC 581(04-19) 098 34-0 (BOTH) (VE)(VR)
 MSFC 581(04-19) 098 34-0 (BOTH) (VE)(VR)
 MSFC 581(04-19) 098 34-0 (BOTH) (VE)(VR)

DELEVR BOFLAP SPOBRK AILRON
 -4.310 -11.700 25.550 -0.630
 4.160 -11.700 25.550 -0.670
 15.750 -11.700 25.550 -1.680

REFERENCE INFORMATION
 LREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3900 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



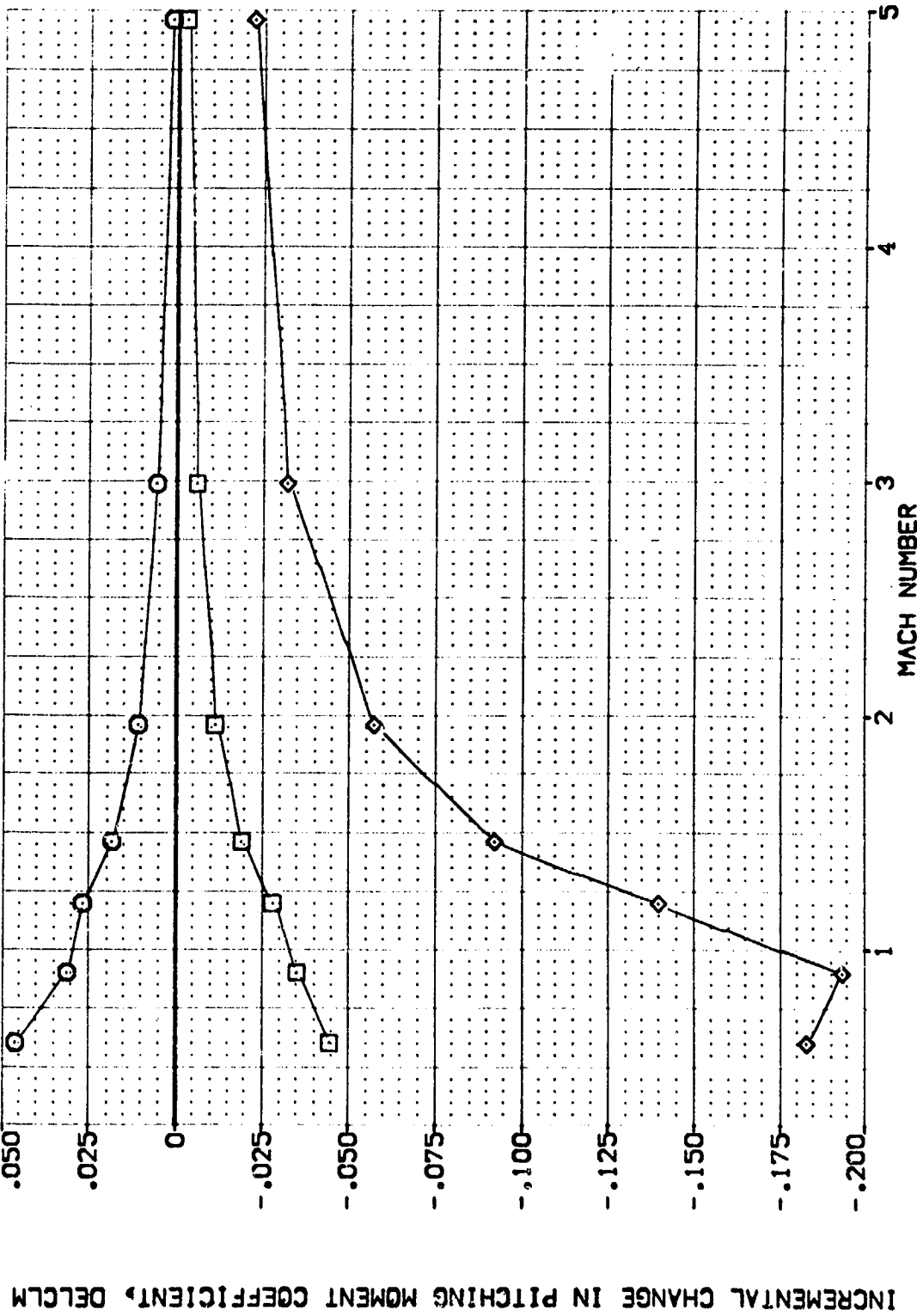
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A) ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (S22003) MSFC 581(0419) ORB 3A-0 (BOFH) (VE1)(VR)
 (S22004) MSFC 581(0419) ORB 3A-0 (BOFH) (VE1)(VR)
 (S22005) MSFC 581(0419) ORB 3A-0 (BOFH) (VE1)(VR)

DELEVR BDFLAP SPOBRK AILRON REFERENCE INFORMATION
 -4.310 -11.700 25.550 -1.630 SREF 2741.800 SQ. FT
 4.160 -11.700 25.550 -1.670 LREF 481.6480 IN.
 16.790 -11.700 25.550 1081.3900 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

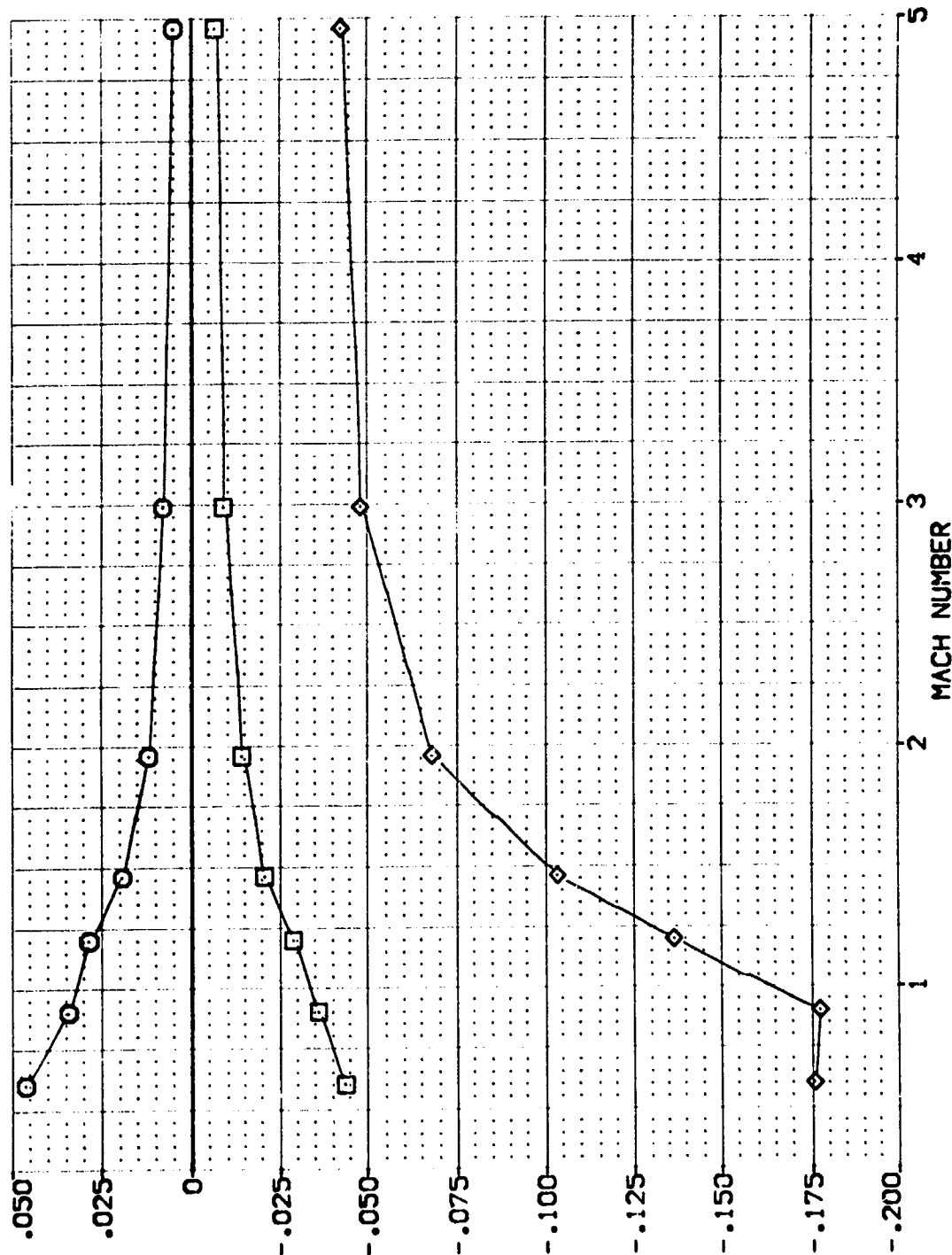
(B) ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (592003) MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
 (592004) MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
 (592005) MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)

DELEVR BOFLAP SPORBK AILRON
 -4.310 -11.700 25.550 -6.30
 4.160 -11.700 25.550 -6.70
 16.790 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SPREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BRREF 536.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D)ALPHA = 15.00

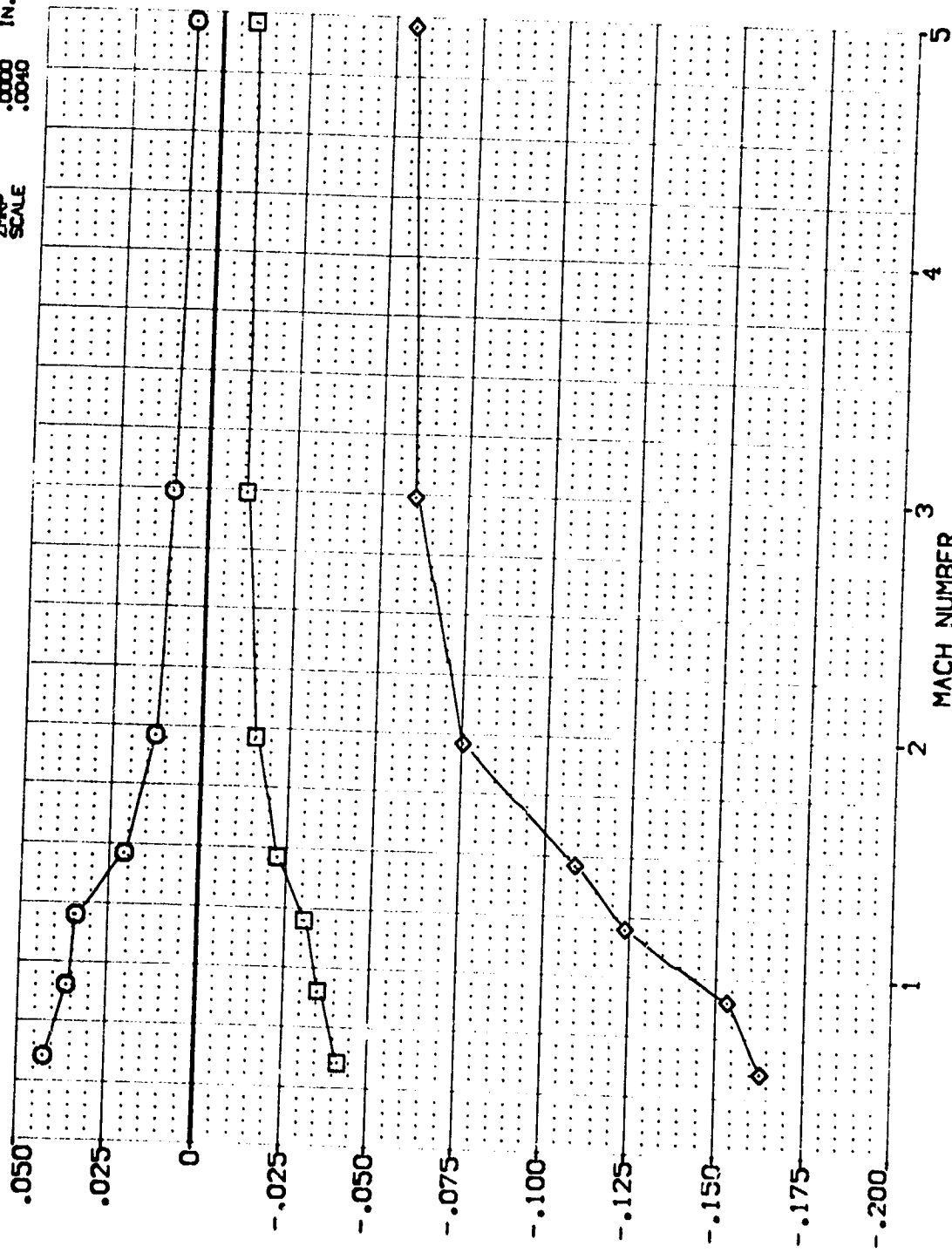


INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

DATA SET SYMBOL: [522003] [522004] [522005]
CONFIGURATION DESCRIPTION:
HSC 581(0A19) DB 34-0 (BCFH) (VE)(VR)
HSC 581(0A19) DB 34-0 (BCFH) (VE)(VR)
HSC 581(0A19) DB 34-0 (BCFH) (VE)(VR)

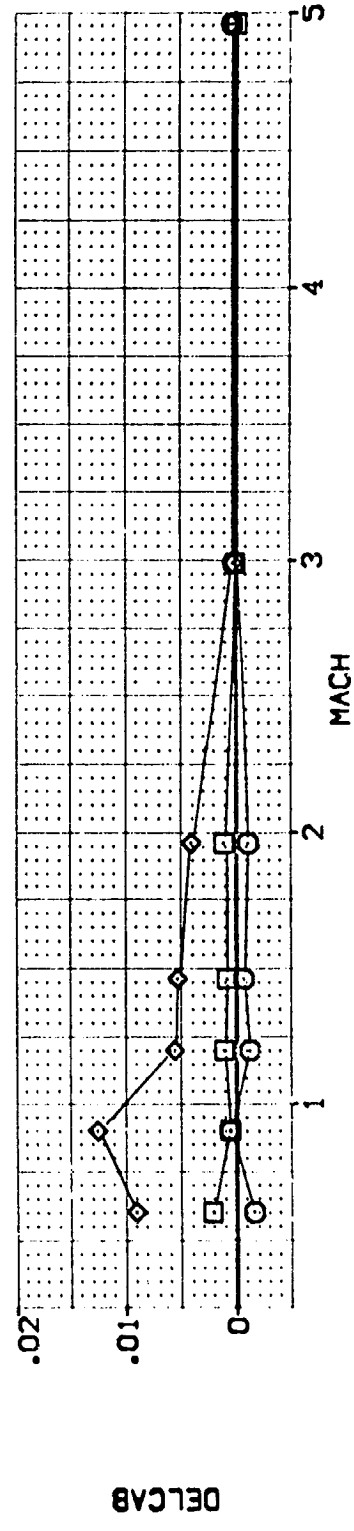
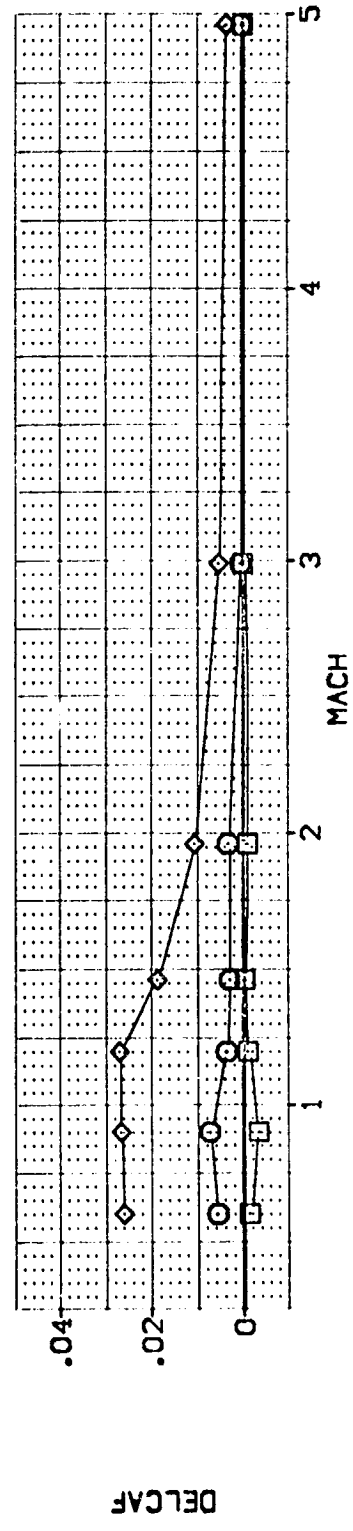
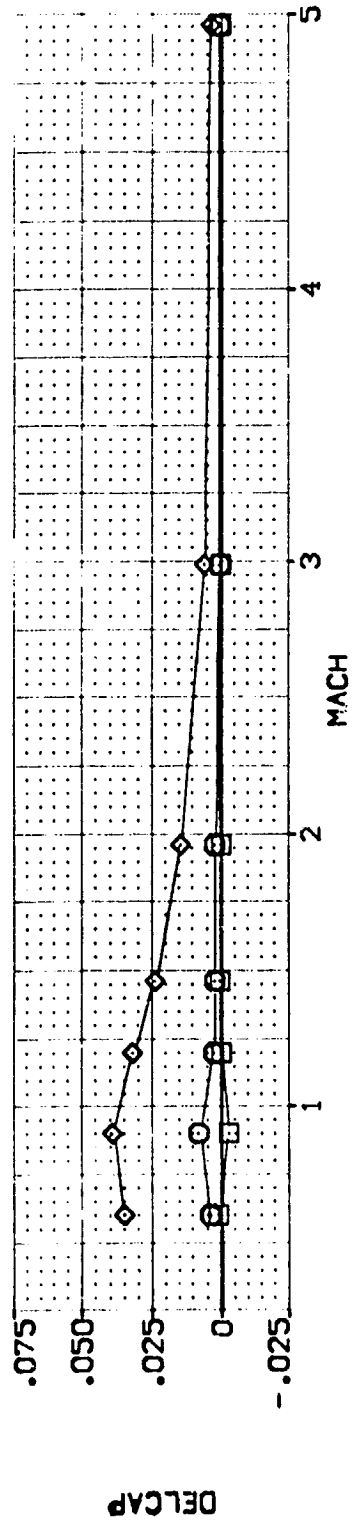
DELEVR -4.310
4.160
16.790
BOFLAP -11.700
-11.700
-11.700
SPDBRK 25.550
25.550
25.550
AILRON -1.600
-1.600
-1.600

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XTRP 1081.3500 IN.
YTRP .0000 IN.
ZTRP .0000 IN.
SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)
(E) ALPHA = 20.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(S82003)	MSFC S81(0A49) 0R8 34-0 (BDPM) (VE)(VR)	-4.310	-11.700	25.550	-0.530	SREF 2741.8000 SQ. FT
(S82004)	MSFC S81(0A49) 0R8 34-0 (BDPM) (VE)(VR)	4.160	-11.700	25.550	-0.670	LREF 481.6480 IN.
(S82005)	MSFC S81(0A49) 0R8 34-0 (BDPM) (VE)(VR)	16.750	-11.700	25.550	-1.680	BREF 936.7000 IN.
						XREF 1081.3500 IN.
						YREF .0000 IN.
						ZREF .0000 IN.
						SCALE .0010



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(ALPHA = .00

DATA SET SYMBOL

(S92003)
(S92004)
(S92005)

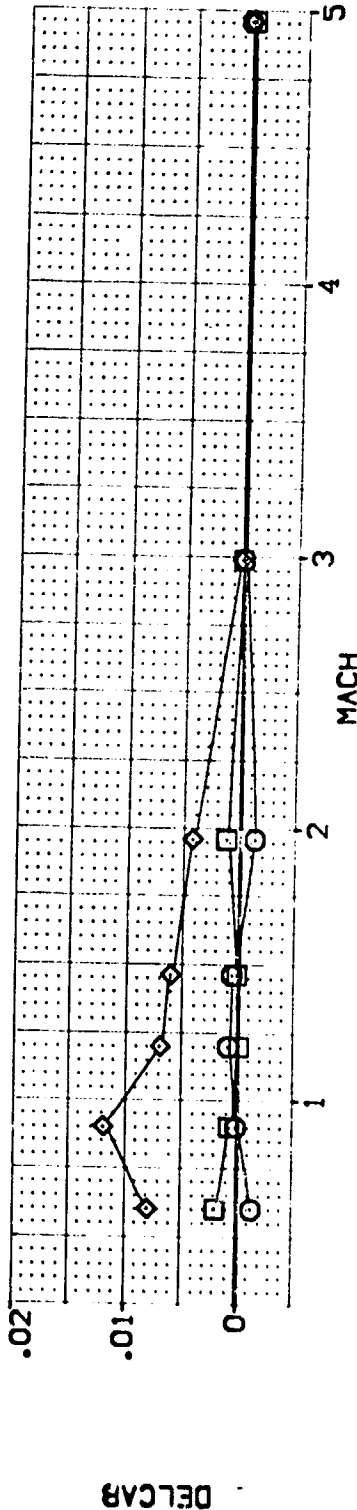
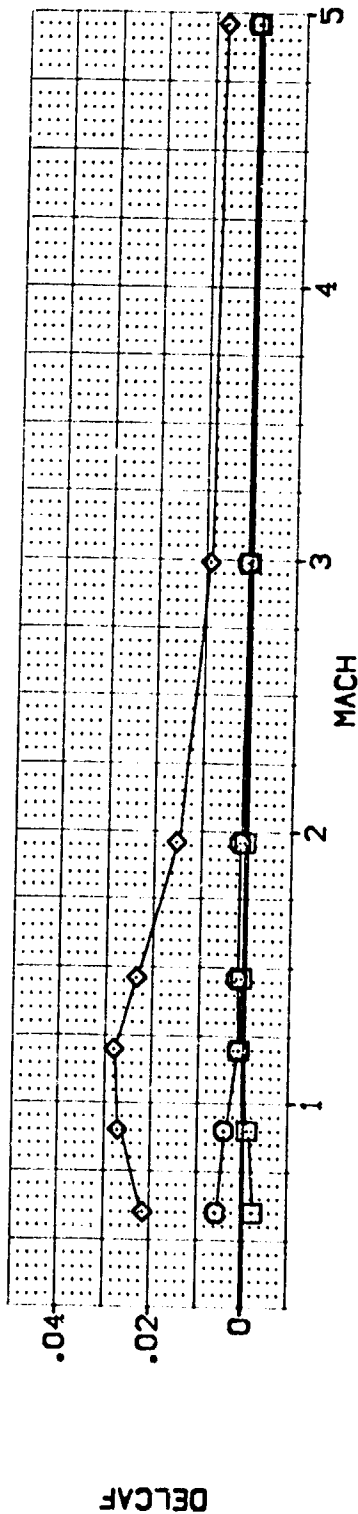
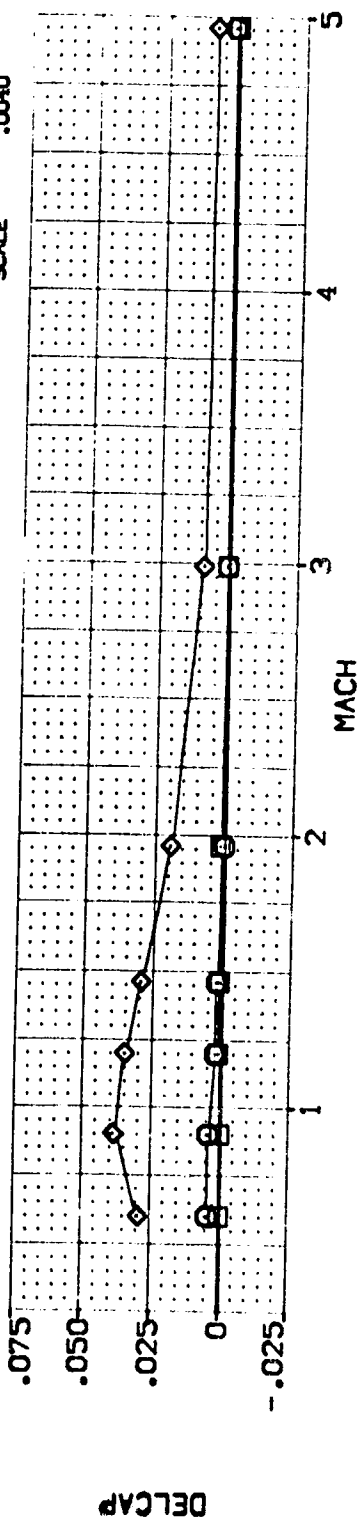


CONFIGURATION DESCRIPTION

MSFC S81(OA49) DB 3A-0 (BOFH) (VE)(VR)
MSFC S81(OA49) DB 3A-0 (BOFH) (VE)(VR)
MSFC S81(OA49) DB 3A-0 (BOFH) (VE)(VR)

DELEVR BOFLAP SPDRBK AILRON
-4.310 -11.700 25.550 -1.530
4.160 -11.700 25.550 -1.670
16.790 -11.700 25.550 -1.680

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 5.00



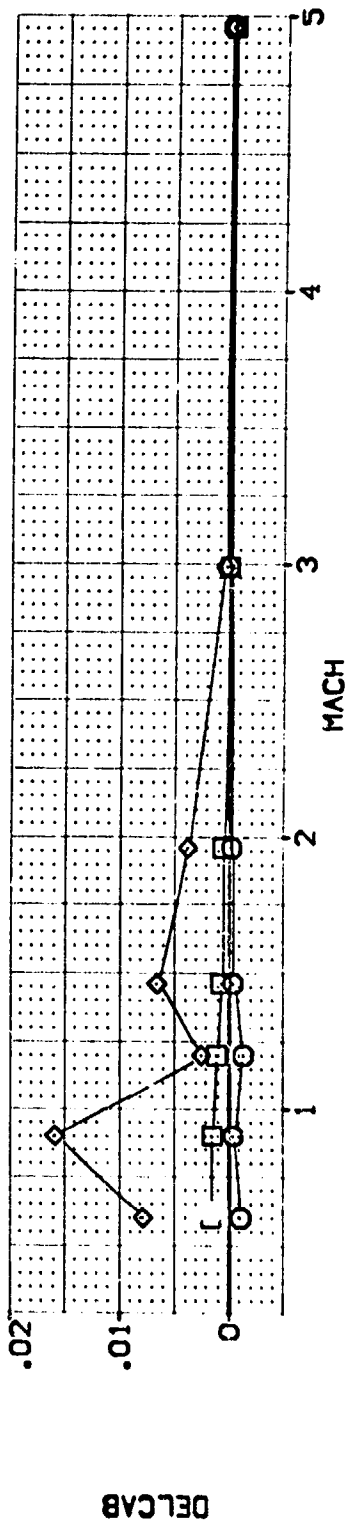
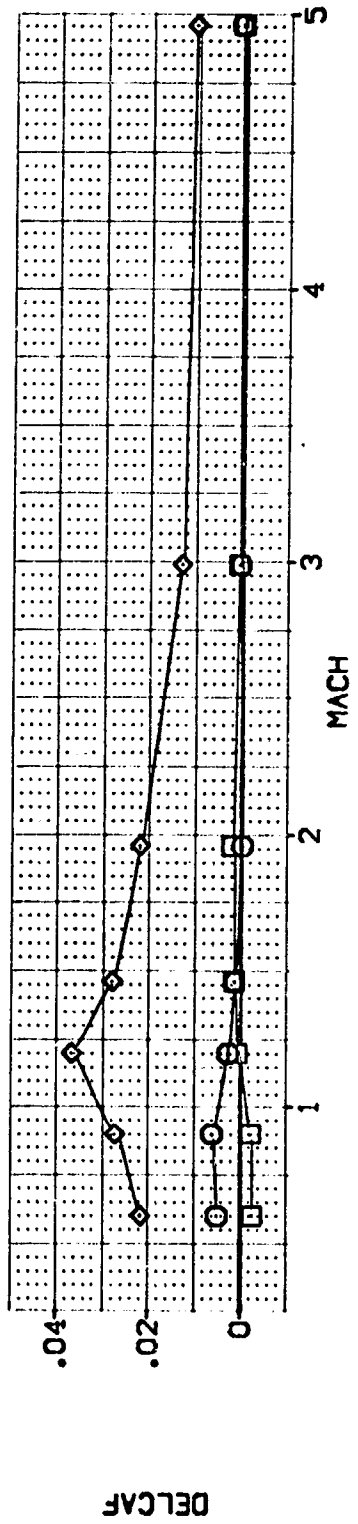
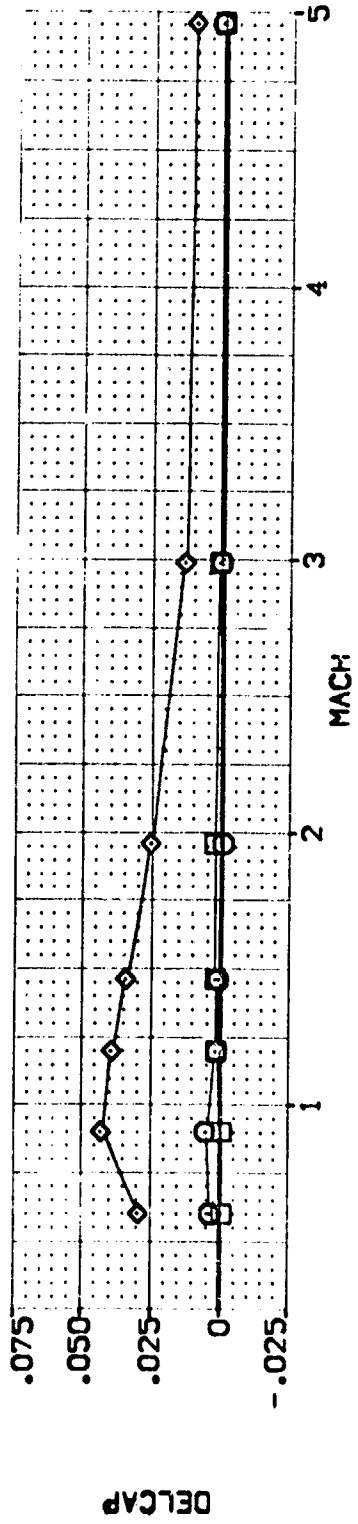
DATA SET SYMBOL: [582003] [582004] [582005]

CONFIGURATION DESCRIPTION: MSFC 581(0A43) ORB 3A-0 (BCFM) (VE)(VR) MSFC 581(0A43) ORB 3A-0 (BCFM) (VE)(VR) MSFC 581(0A43) ORB 3A-0 (BCFM) (VE)(VR)

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 936.7000 IN. XMRP 1081.3000 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040

DELEVR 80FLAP SFD8RK AILRON

-4.310 -11.700 25.550
4.160 -11.700 25.550
16.750 -11.700 25.550



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C) ALPHA = 10.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

{ 992003 } H5TC 581 (0419) 088 34-0 (BCPH) (VE)(VR)

{ 992004 } H5TC 581 (0419) 088 34-0 (BCPH) (VE)(VR)

{ 992005 } H5TC 581 (0419) 088 34-0 (BCPH) (VE)(VR)

DELEVR BOFLAP SPOBRK AILRON

-4.310 -11.700 25.550 -1.630

16.750 -11.700 25.550 -1.680

REFERENCE INFORMATION

SREF 2741.8000 50. FT

LREF 481.6480 IN.

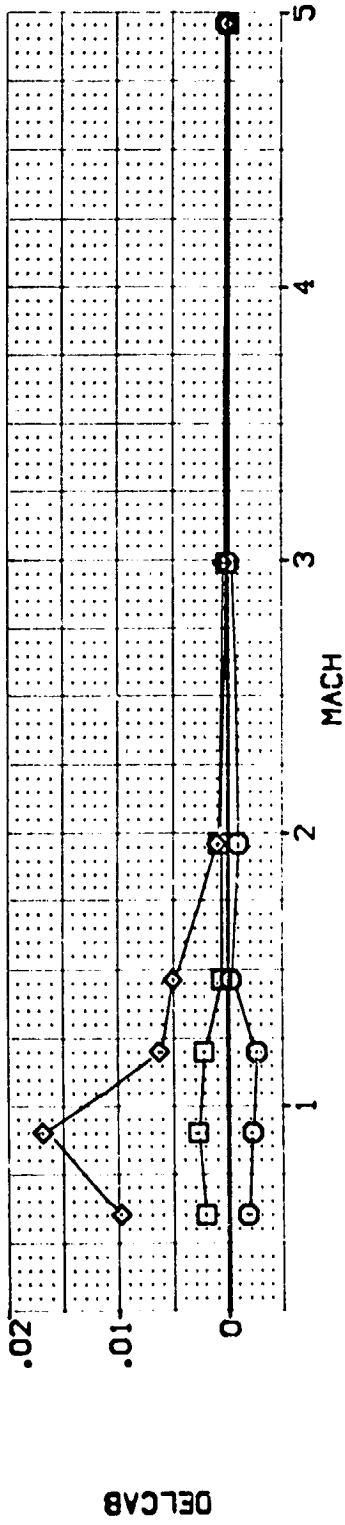
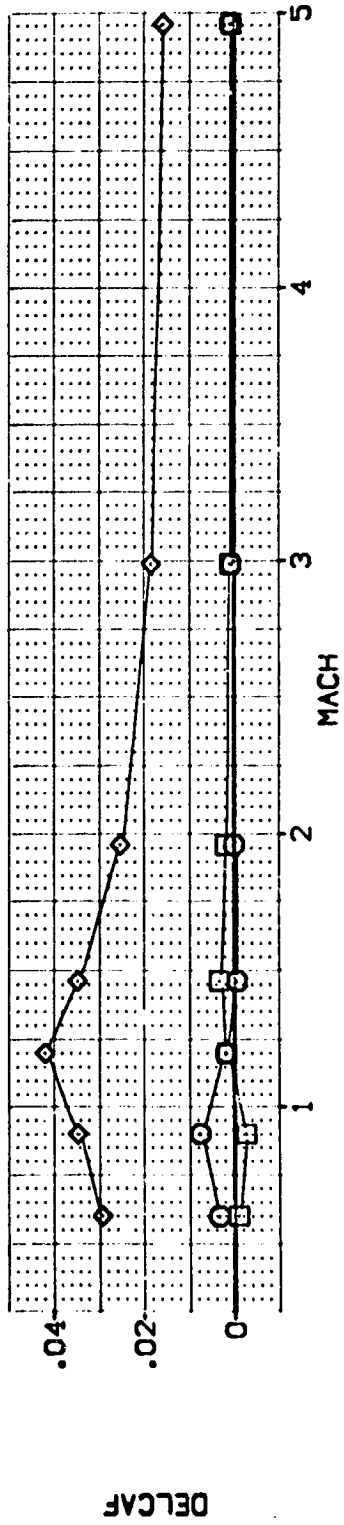
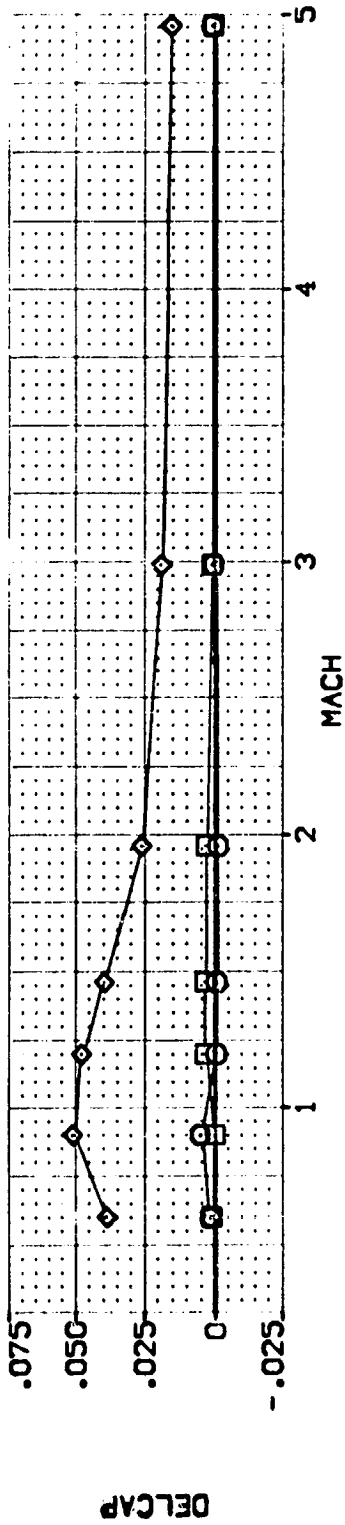
BREF 936.7000 IN.

XMRP 1081.3900 IN.

YMRP .0000 IN.

ZMRP .0000 IN.














SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D) ALPHA = 15.00

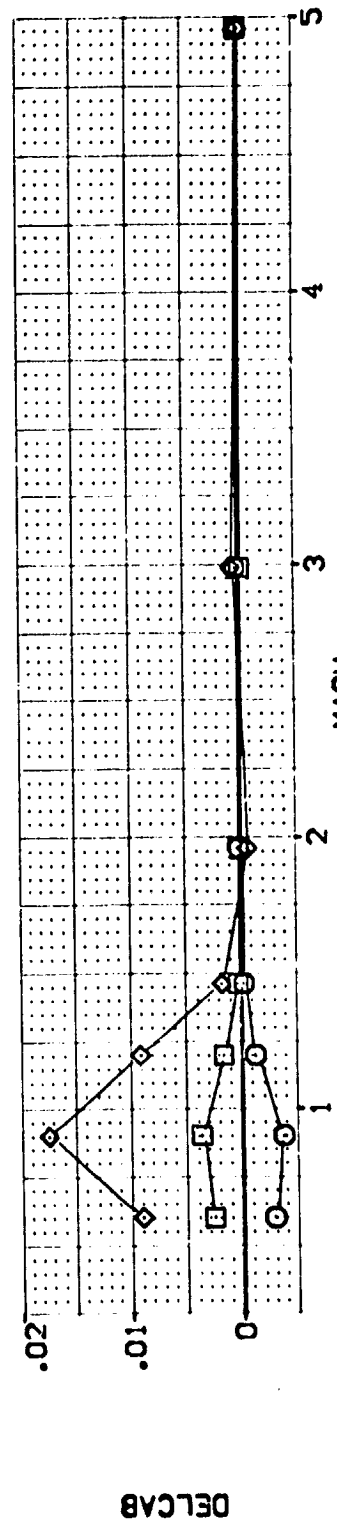
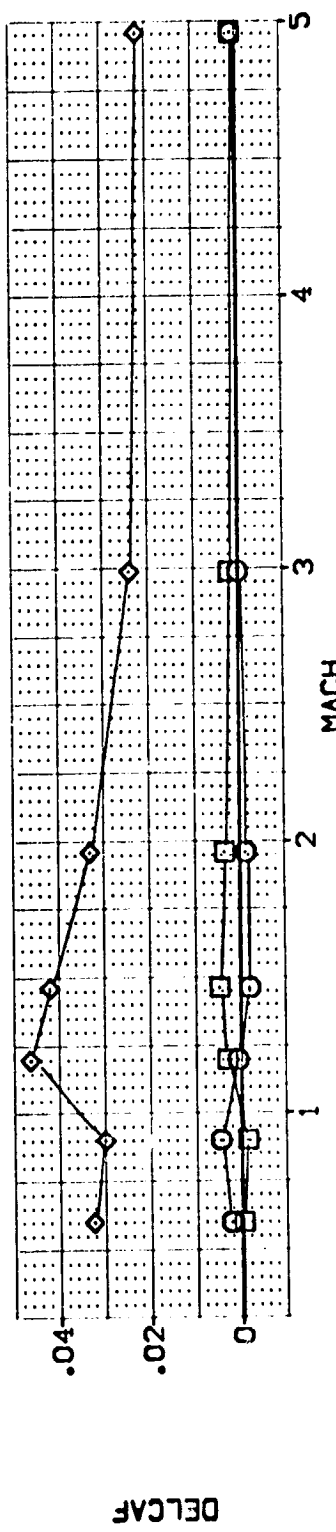
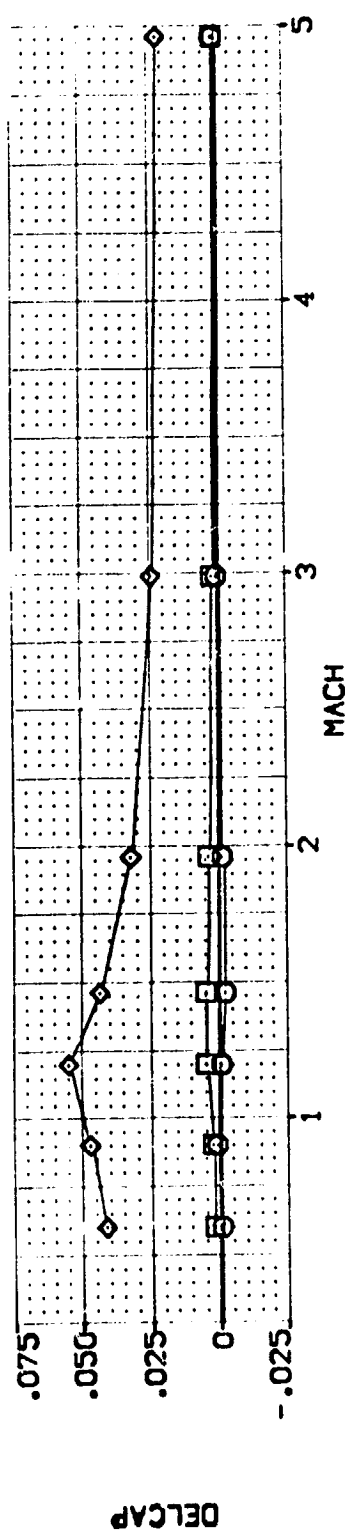


DATA SET SYMBOL:             

CONFIGURATION DESCRIPTION: MSFC 581(DA49) 088 34-0 (BDCH) (VE)(VR) MSFC 581(DA49) 088 34-0 (BDCH) (VE)(VR) MSFC 581(DA49) 088 34-0 (BDCH) (VE)(VR)

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT. LREF 481.6480 IN. BREF 936.7000 IN. XMRP 1081.3500 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040

DELEVR 80FLAP 5POBRK AILRON
-4.310 -11.700 25.550
4.160 -11.700 25.550
16.750 -11.700 25.550

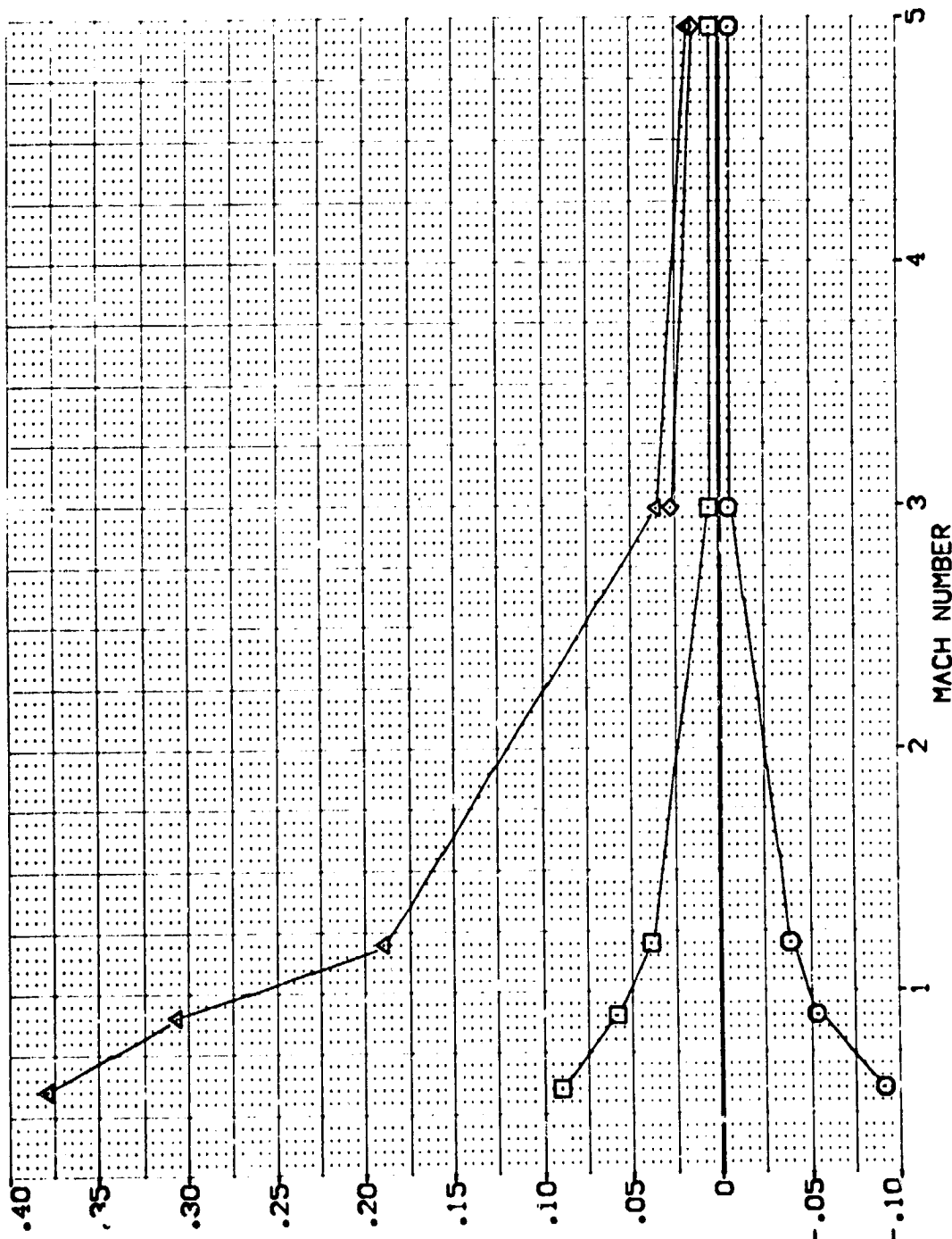


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(EJALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (582A03) □ 157C 591 (0A19) 079 34-0 (BDM) (VE) (VR)
 (582A04) □ 157C 531 (0A19) 079 34-0 (BDM) (VE) (VR)
 (582A07) □ 157C 591 (0A19) 079 34-0 (BDM) (VE) (VR)
 (582A05) □ 157C 591 (0A19) 079 34-0 (BDM) (VE) (VR)

DELEVR BDFLAP SP0BWK AILRON REFERENCE INFORMATION
 -4.310 -11.700 25.550 -530 SQ. FT
 4.160 -11.700 23.950 -670 IN.
 13.130 -11.700 23.950 -650 IN.
 16.790 -11.700 23.950 -1.680 IN.
 ZMRP .0000 IN.
 SCALE .0040



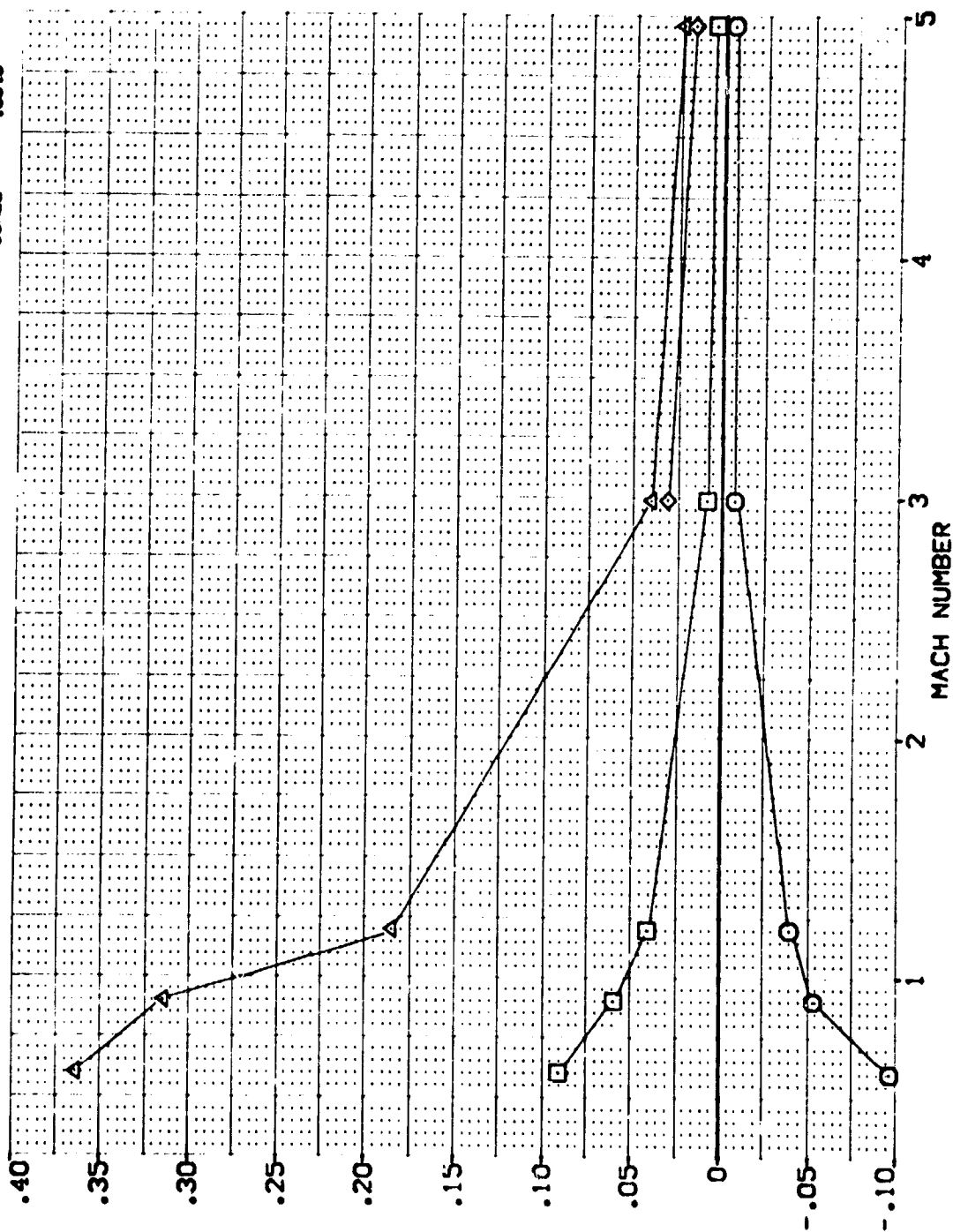
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA CL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SFOBRK	AILRON	REFERENCE INFORMATION
(582A03)	MSTC 531(OA19) CRB 34-0 (BDTH) (WE)(VR)	-4.310	-11.700	25.550	-0.600	SREF 2741.8000 SQ. FT
(582A04)	MSTC 531(OA19) CRB 34-0 (BDTH) (WE)(VR)	4.150	-11.700	25.550	-0.670	LREF 481.6480 IN.
(582A05)	MSTC 581(OA19) CRB 34-0 (BDTH) (WE)(VR)	13.130	-11.700	25.550	-0.650	BREF 936.7000 IN.
(582A06)	MSTC 581(OA19) CRB 34-0 (BDTH) (WE)(VR)	16.750	-11.700	25.550	-1.680	XREF 1081.3500 IN.
						YREF .0000 IN.
						ZREF .0000 IN.
						SCALE .0040

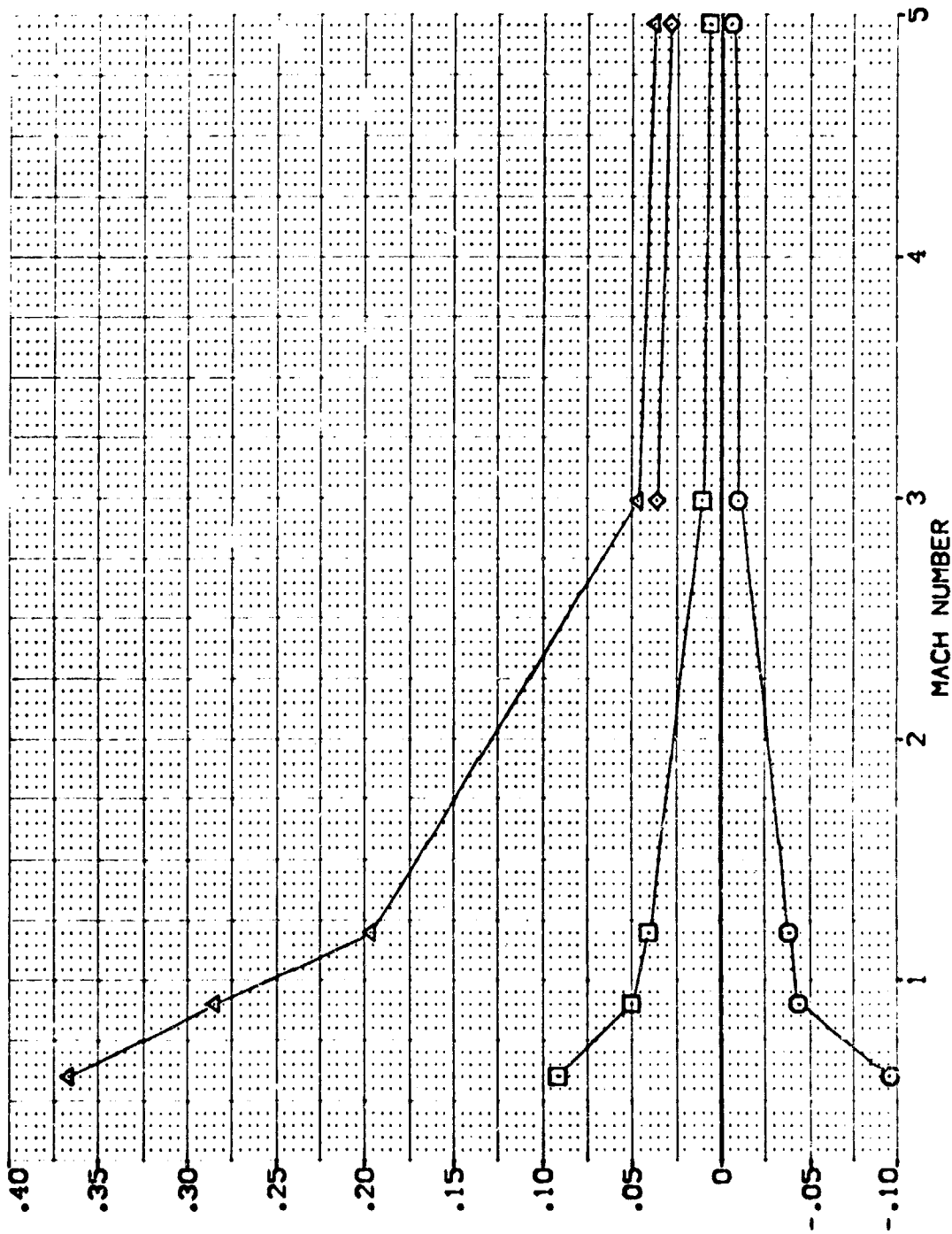


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)ALPHA = 5.00



DATA SET SYMBOL: 372A03, 372A04, 372A05
CONFIGURATION DESCRIPTION: HSC 581(CA19) DB 34-0 (BDTH) (VE)(VR), HSC 581(CA19) DB 34-0 (BDTH) (VE)(VR), HSC 581(CA19) DB 34-0 (BDTH) (VE)(VR), HSC 581(CA19) DB 34-0 (BDTH) (VE)(VR)
DELEVR: -4.310, 4.160, 13.130, 16.750
BDFLAP: -11.700, -11.700, -11.700, -11.700
SPDRK: 25.550, 25.550, 25.550, 25.550
AILON: -0.000, -0.670, -0.650, -1.680
REFERENCE INFORMATION: SREF 2741.8000 SQ. FT, LREF 481.6480 IN., BREF 536.7000 IN., XTRP 1081.3500 IN., YTRP 0.0000 IN., ZTRP 0.0000 IN., SCALE 0.0040

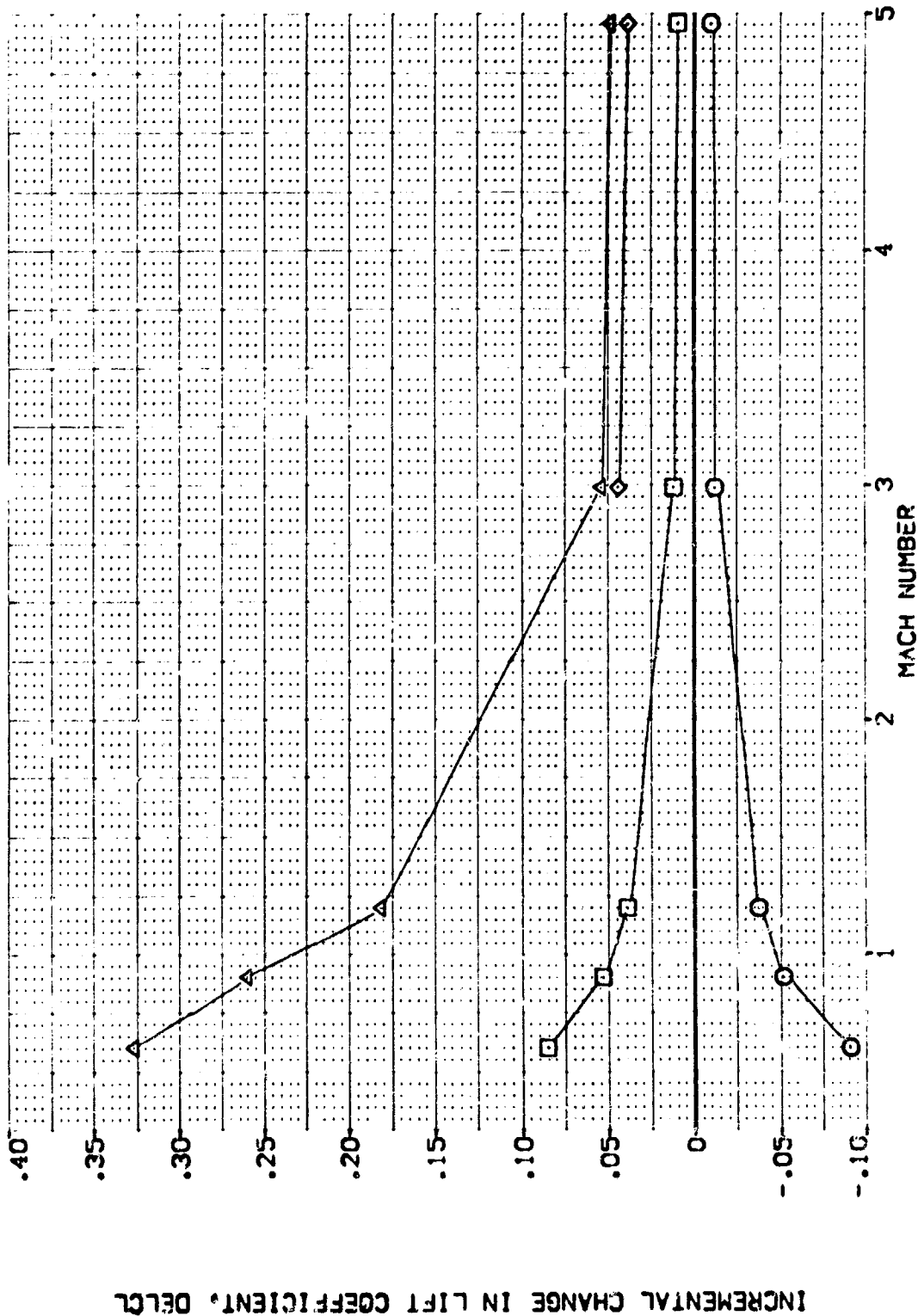


INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

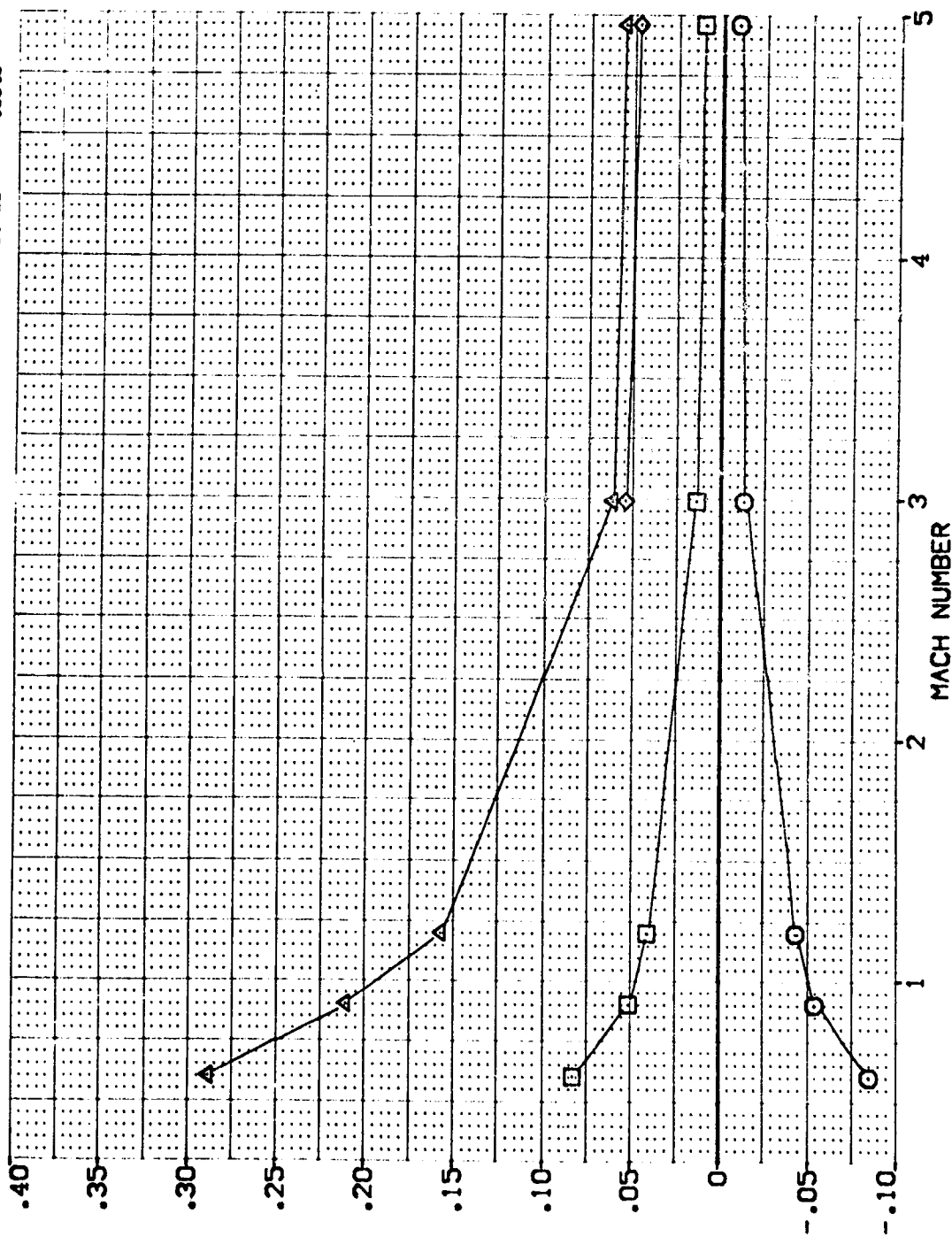
(CJALPHA = 10.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(592A01)	MSFC S31(0A-9) 523 34-0 (BOPN) (VE)(VR)	-4.310	-11.700	25.550	-1.630	SREF 2741.6000 SQ. FT
(592A04)	MSFC S31(0A-9) 523 34-0 (BOPN) (VE)(VR)	4.160	-11.700	25.550	-1.670	LREF 481.6400 IN.
(592A07)	MSFC S31(0A-9) 523 34-0 (BOPN) (VE)(VR)	13.130	-11.700	25.550	-1.650	BREF 936.7000 IN.
(592A05)	MSFC S31(0A-9) 523 34-0 (BOPN) (VE)(VR)	16.790	-11.700	25.550	-1.680	XREF 1081.3600 IN.
						YREF .0000 IN.
						ZREF .0000 IN.
						SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)
(C) ALPHA = 15.00

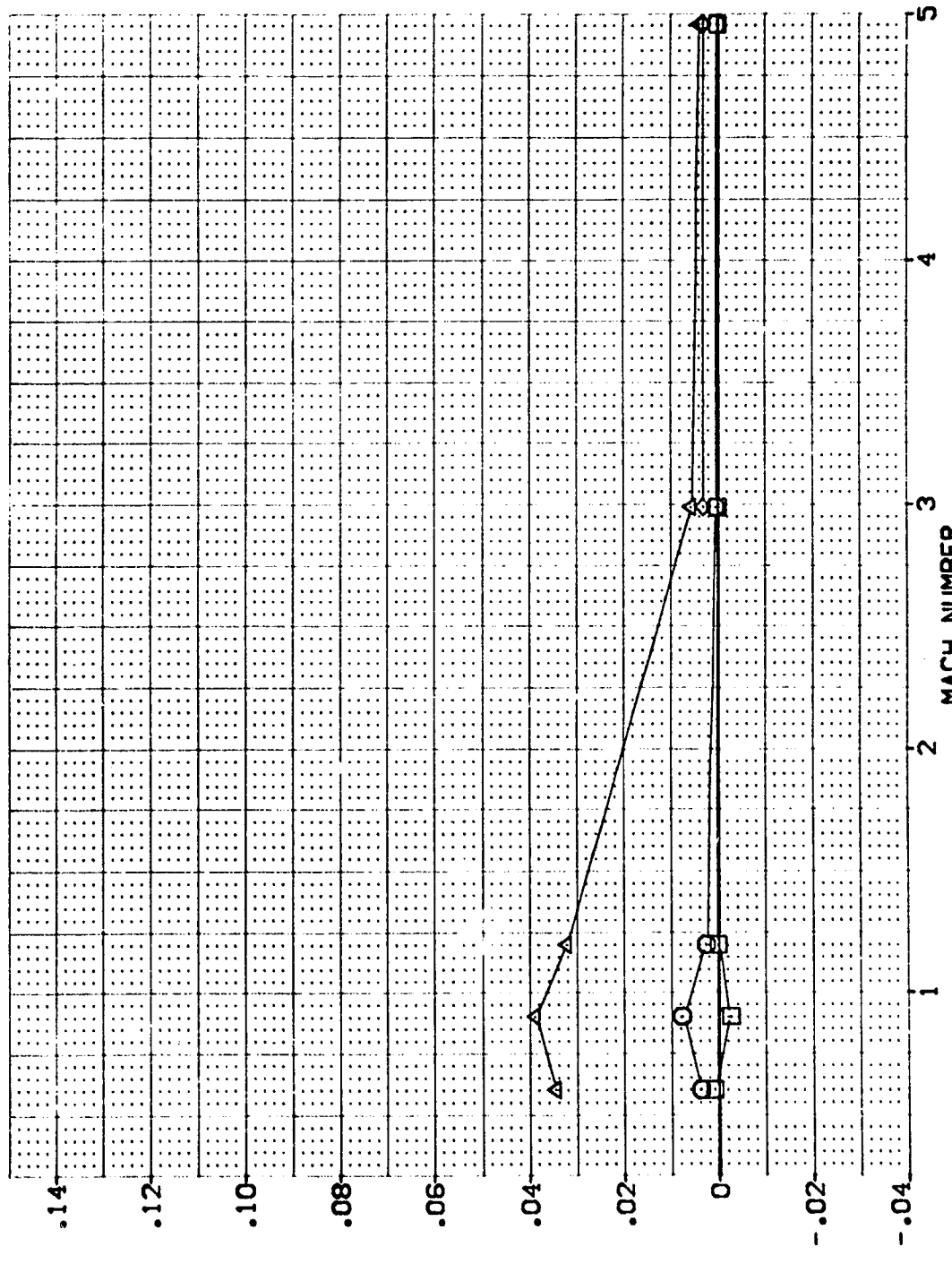
DEFLAP		SPDRK		AIRLON		REFERENCE INFORMATION	
4.310	-1.700	25.550	-530	\$REF	2741.8000	50. FT	
1.150	-1.700	22.350	-670	LREF	481.6480	IN.	
12.130	-1.700	22.350	-630	BREF	936.7000	IN.	
16.730	-1.700	23.350	-1.680	XPRP	1081.3500	IN.	
				YPRP	.0000	IN.	
				ZPRP	.0000	IN.	
				SCALE	.0040		



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

$$\text{CEJALPHA} = 20.00$$



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDFLAP	SPOBRK	AILVRN	REFERENCE INFORMATION
[582A03]	HS-C 581(CA49) 088 34-0 (BCPH) (VE)(VR)	-4.310	-11.700	25.550	-1.630	SREF 2741.8000 SQ. FT
[582A04]	HS-C 581(CA49) 088 34-0 (BCPH) (VE)(VR)	4.160	-11.700	25.550	-1.670	LREF 481.6480 IN.
[582A07]	HS-C 581(CA49) 088 34-0 (BCPH) (VE)(VR)	13.130	-11.700	25.550	-1.650	BREF 536.7000 IN.
[582A05]	HS-C 581(CA49) 088 34-0 (BCPH) (VE)(VR)	16.750	-11.700	25.550	-1.680	XMRP 1081.3500 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0010



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

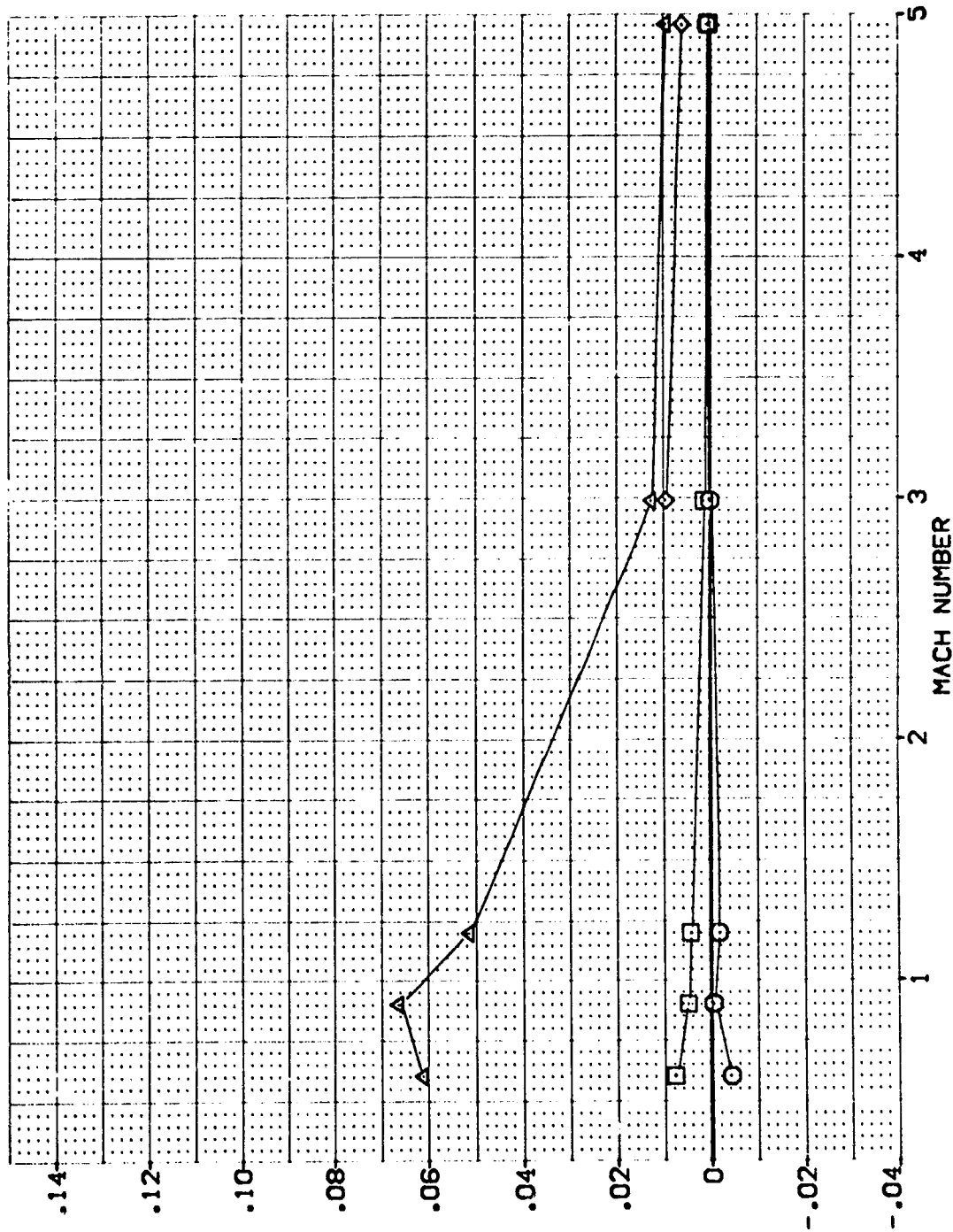
(A)ALPHA = .00

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION: MSFC 581(0A49) DB8 3A-0 (BOFM) (VE)(VR) MSFC 581(0A49) DB8 3A-0 (BOFM) (VE)(VR) MSFC 581(0A49) DB8 3A-0 (BOFM) (VE)(VR) MSFC 581(0A49) DB8 3A-0 (BOFM) (VE)(VR)

DELEVR: -1.310, -1.160, 13.130, 16.790
 BOFLAP: -11.700, -11.700, -11.700, -11.700
 SPOBRK: 25.550, 25.550, 25.550, 25.550
 AILRON: -630, -670, -650, -1.680

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT, LREF 481.6480 IN., BREF 536.7000 IN., XMRP 1081.3500 IN., YMRP .0000 IN., ZMRP .0000 IN., SCALE .0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)ALPHA = 5.00



DATA SET SYMBO. CONFIGURATION DESCRIPTION

MSFC 581(0A19) 0B3 34-0 (BOTH) (VE)(VR)

MSFC 581(0A19) 0B3 34-0 (BOTH) (VE)(VR)

MSFC 581(0A19) 0B3 34-0 (BOTH) (VE)(VR)

MSFC 581(0A19) 0B3 34-0 (BOTH) (VE)(VR)

DELEV R BDFLAP SPDBRK AILRON

-4.310 -11.700 25.550 -630

4.150 -11.700 25.550 -670

12.130 -11.700 25.550 -650

16.750 -11.700 25.550 -1.680

REFERENCE INFORMATION

SREF 2741.8000 50. FT

LREF 481.6480 IN.

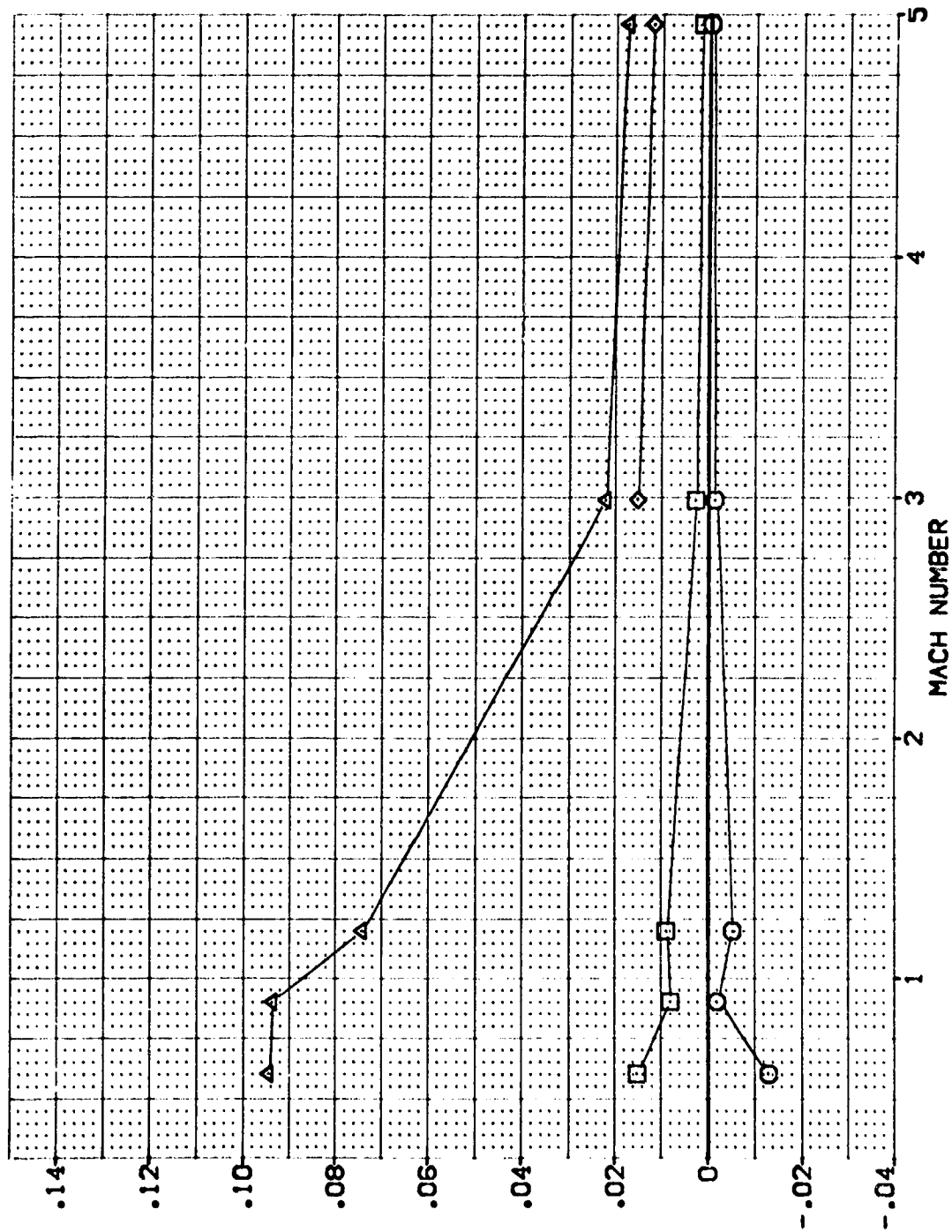
BREF 536.7000 IN.

XMRP 1081.3500 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

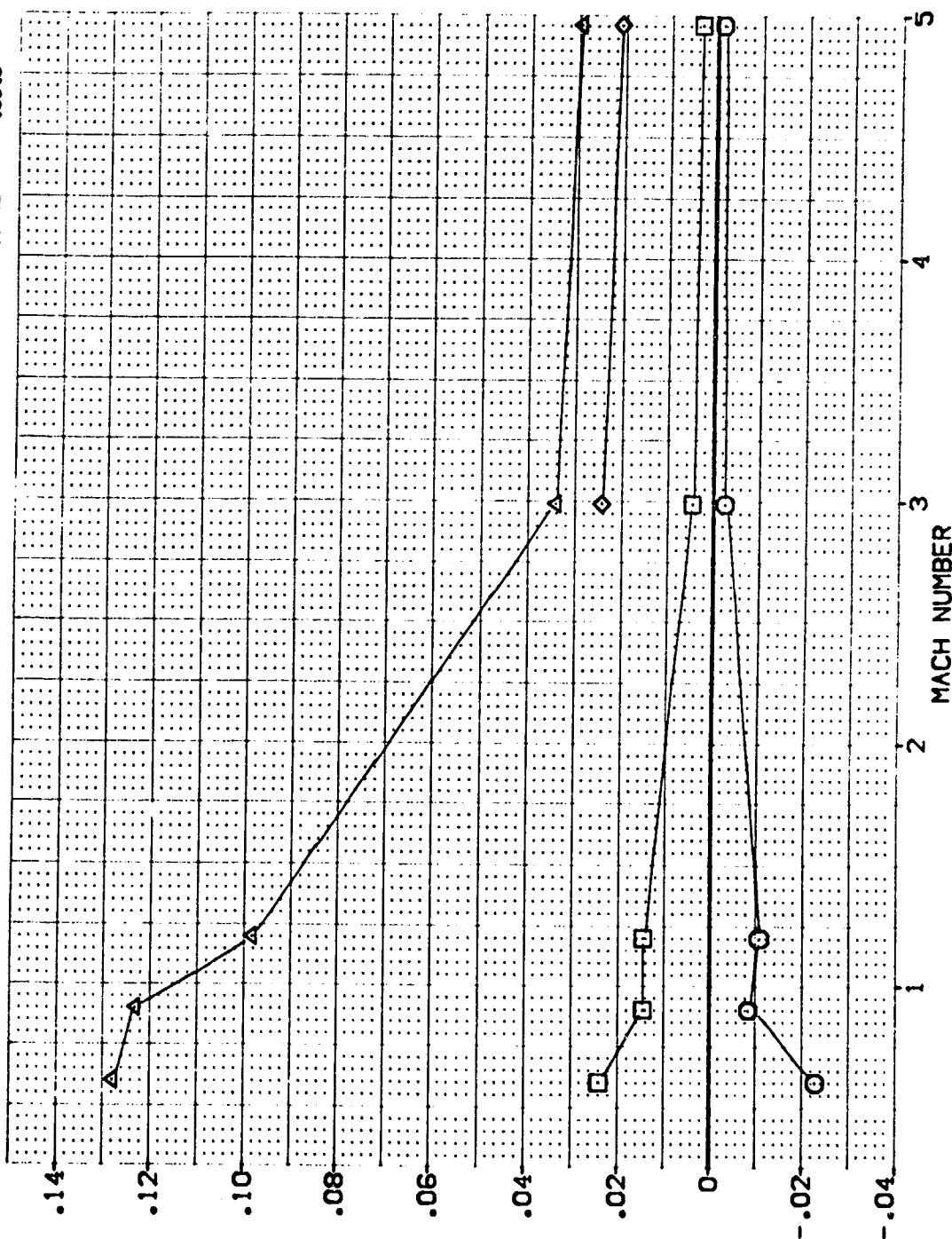
(C)ALPHA = 10.00



DATA SET SYMBOL:   

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDFLAP	SPDBRK	ALLRON	REFERENCE INFORMATION
{532A03}	H5FC 591(OA49) 023 34-0 (BDTH) (VEJ(VR))	-4.310	-11.700	25.550	-1.630	SREF 2741.8000 SQ: FT
{532A04}	H5FC 591(OA49) 023 34-0 (BDTH) (VEJ(VR))	4.160	-11.700	25.550	-1.670	LREF 481.6480 IN:
{532A05}	H5FC 591(OA49) 023 34-0 (BDTH) (VEJ(VR))	13.130	-11.700	25.550	-1.650	BREF 836.7000 IN:
{532A06}	H5FC 591(OA49) 023 34-0 (BDTH) (VEJ(VR))	16.730	-11.700	25.550	-1.680	XREF 1081.3500 IN:
						YREF .0000 IN:
						ZREF .0000 IN:
						SCALE .0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



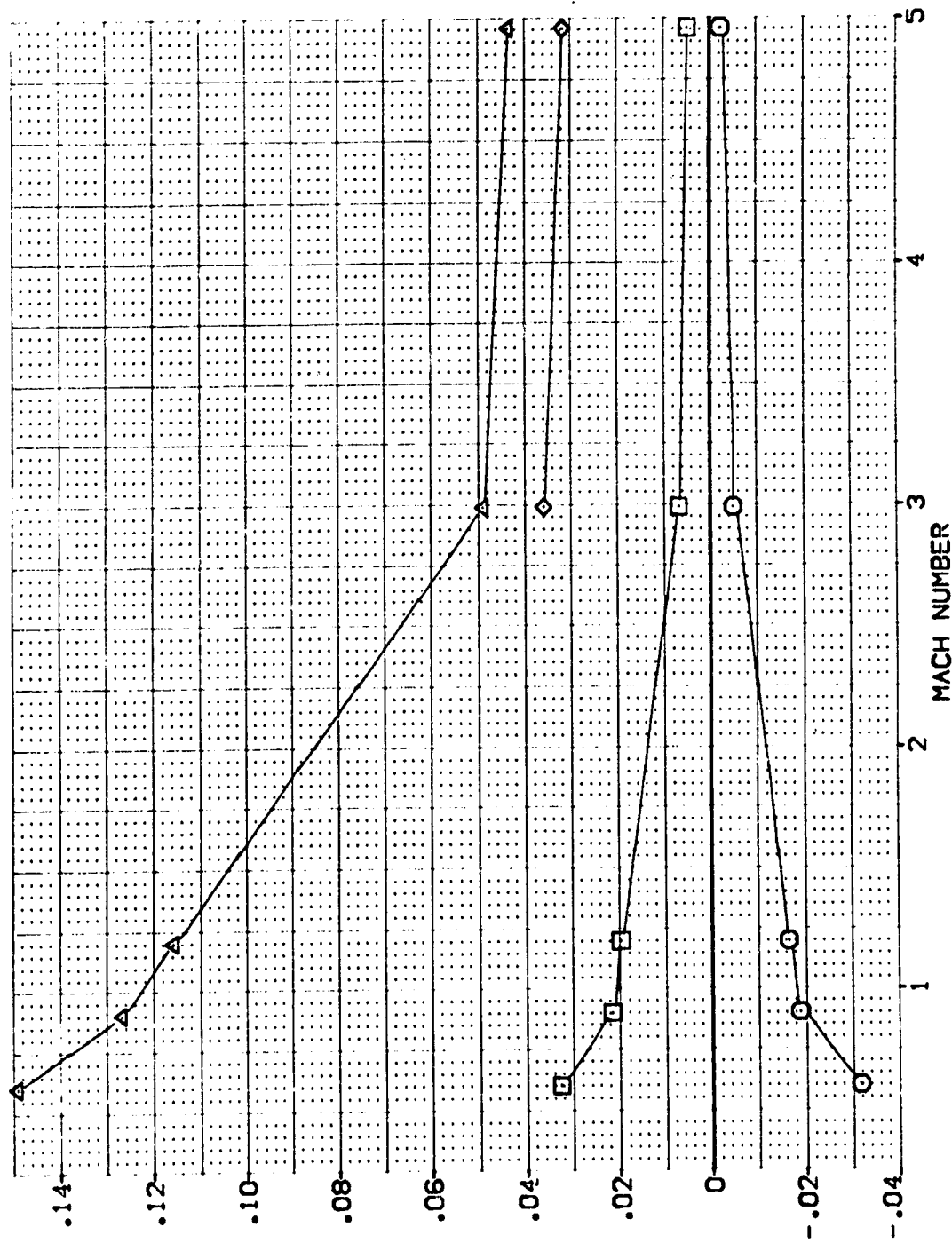
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(DJ)ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(582A03)	MSFC 531(0A49) 023 34-0 (BOFM) (VE)(VR)	-4.310	-11.700	25.550	.630	SREF 2741.8000 SQ. FT
(582A04)	MSFC 531(0A49) 023 34-0 (BOFM) (VE)(VR)	4.160	-11.700	25.550	-.670	LREF 481.6480 IN.
(53A107)	MSFC 531(0A49) 023 34-0 (BOFM) (VE)(VR)	13.130	-11.700	25.550	-.650	BREF 936.7000 IN.
(582A05)	MSFC 531(0A49) 023 34-0 (BOFM) (VE)(VR)	16.790	-11.700	25.550	-1.680	XTRP 1081.3900 IN.
						YTRP .0000 IN.
						ZTRP .0000 IN.
						SCALE .0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCO



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)ALPHA = 20.00

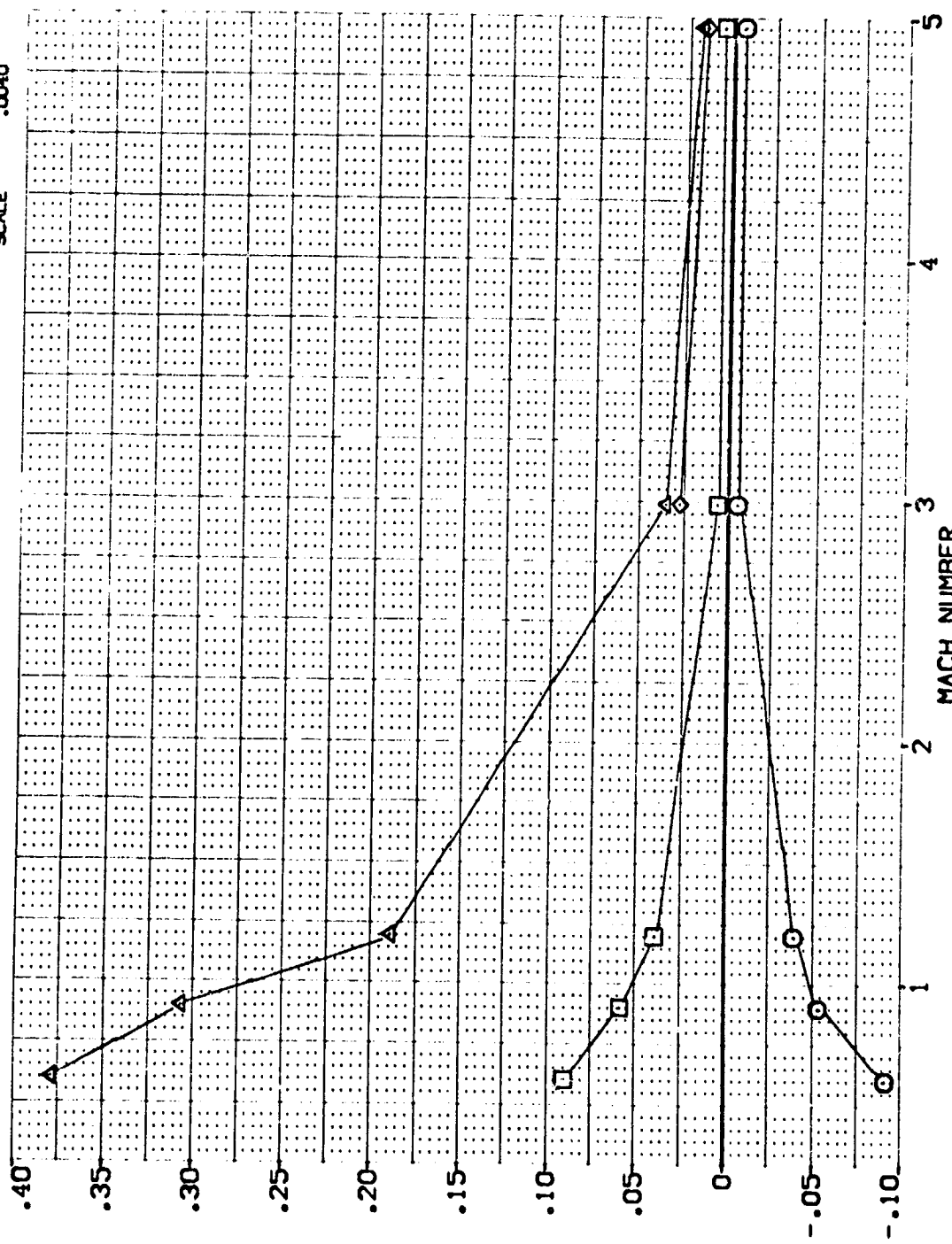


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A) ALPHA = .00

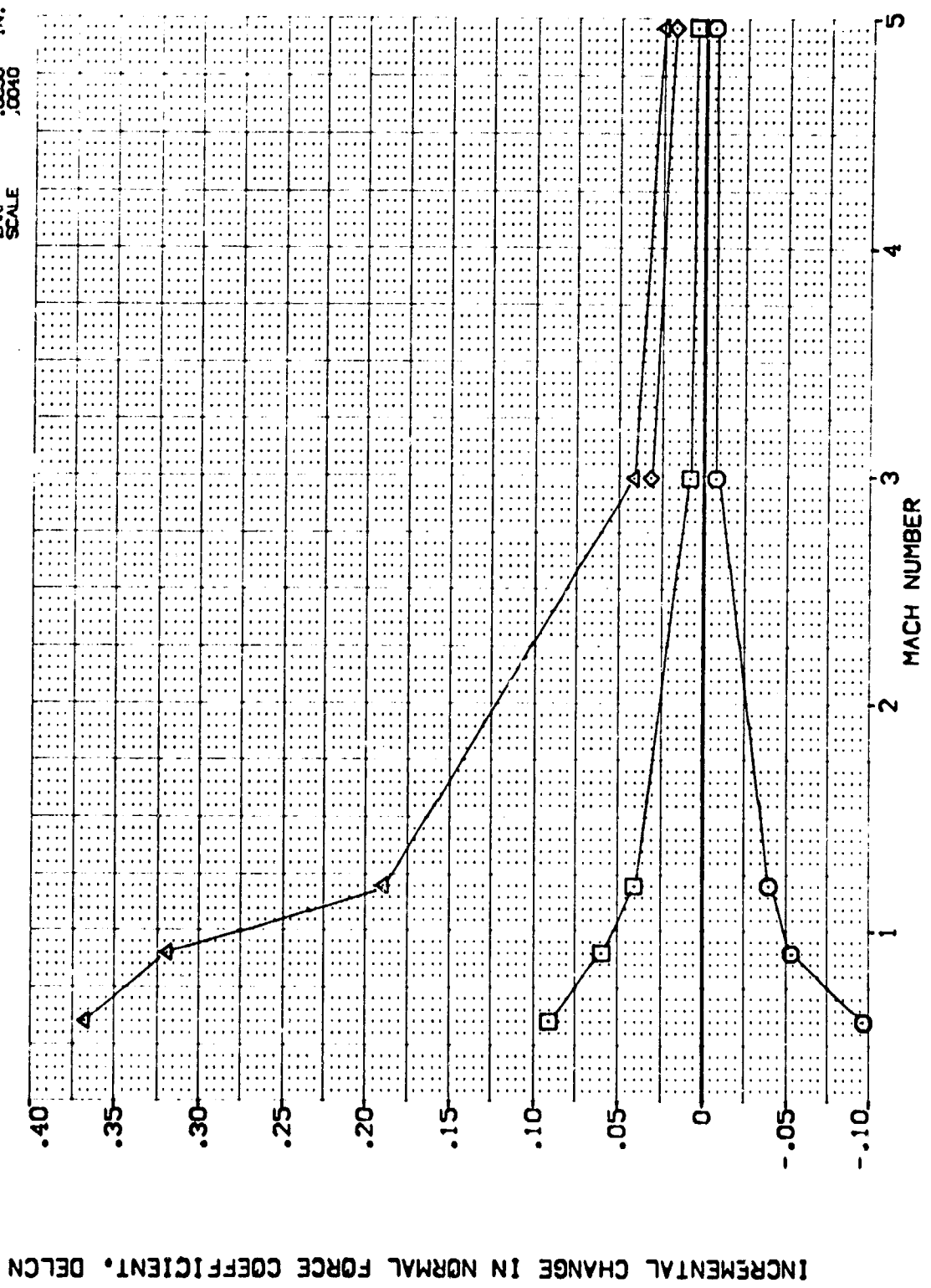
INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPORRK	AILERON	REFERENCE INFORMATION
[552A03]	MSFC 501 (0A19) CR3 34-0 (BOTH) (VE) (VR)	-4.310	-11.700	25.550	-0.530	SREF 2741.8000 90. FT
[552A04]	MSFC 501 (0A19) CR3 34-0 (BOTH) (VE) (VR)	4.160	-11.700	25.550	-0.670	LREF 481.6480 IN.
[552A05]	MSFC 501 (0A19) CR3 34-0 (BOTH) (VE) (VR)	13.130	-11.700	25.550	-0.650	BREF 936.7000 IN.
[552A06]	MSFC 501 (0A19) CR3 34-0 (BOTH) (VE) (VR)	16.730	-11.700	25.550	-1.680	XPRP 1081.3900 IN.
						YPRP .0000 IN.
						ZPRP .0000 IN.
						SCALE .0040



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [502A03] HSE C 31 (DA49) C88 34-0 (BDPH) (VE)(VR)
 [502A04] HSE C 31 (DA49) C88 34-0 (BDPH) (VE)(VR)
 [50A107] HSE C 31 (DA49) C88 34-0 (BDPH) (VE)(VR)
 [502A05] HSE C 31 (DA49) C88 34-0 (BDPH) (VE)(VR)

DELEV R SPDRK AILRON REFERENCE INFORMATION
 -4.310 -11.700 25.550 2741.8000 50. FT
 4.160 -11.700 25.550 481.6480 IN.
 13.130 -11.700 25.550 936.7000 IN.
 16.790 -11.700 25.550 1081.2800 IN.
 YARP .0000 IN.
 ZARP .0000 IN.
 SCALE .0010



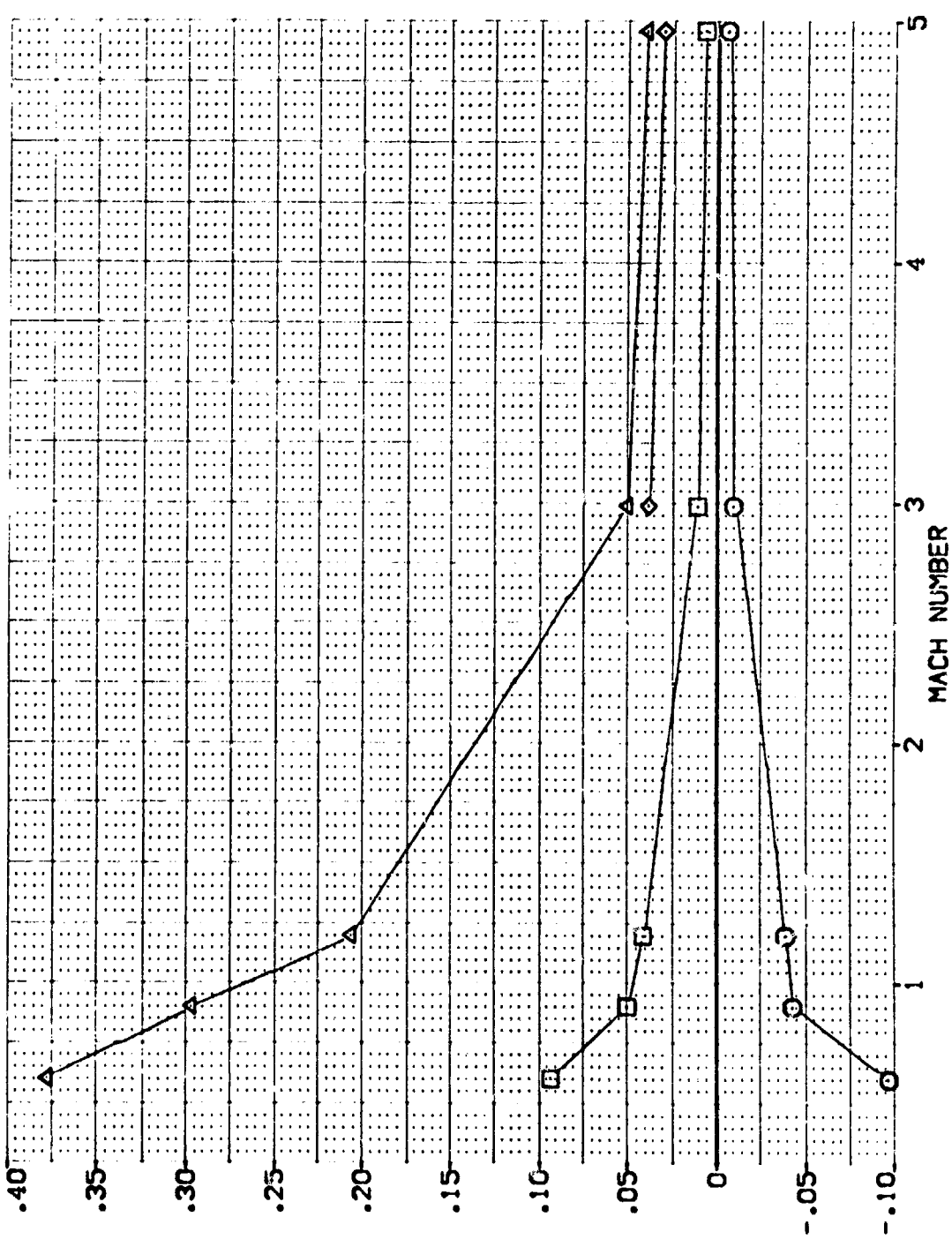
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 5.00



INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

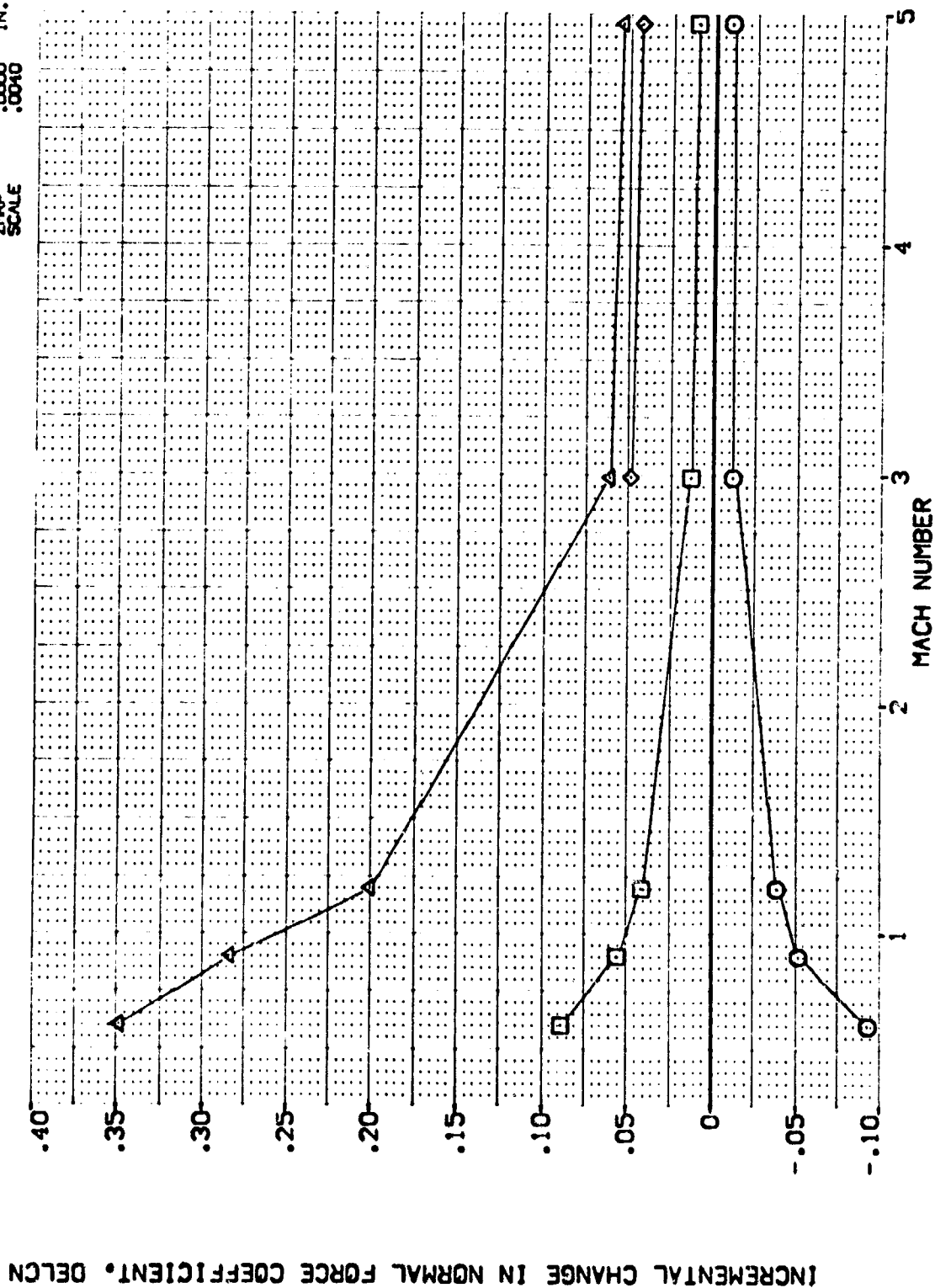
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPORBK	AILRON	REFERENCE INFORMATION
1002A03	HSFC 531 (0419) 000 34-0 (BOTH) (VE) (VR)	-4.310	-11.700	25.550	-1.630	SREF 2741.8000 SQ. FT
1002A04	HSFC 531 (0419) 000 34-0 (BOTH) (VE) (VR)	4.160	-11.700	25.550	-1.670	LREF 481.6480 IN.
1002A05	HSFC 531 (0419) 000 34-0 (BOTH) (VE) (VR)	13.130	-11.700	25.550	-1.650	BREF 936.7000 IN.
1002A06	HSFC 531 (0419) 000 34-0 (BOTH) (VE) (VR)	16.720	-11.700	25.550	-1.680	XREF 1081.3900 IN.
						YREF .0000 IN.
						ZREF .0000 IN.
						SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)ALPHA = 10.00

DATA SET SYMBO.	CONFIGURATION DESCRIPTION	DELEV	BDCLAP	SFOBRK	AIRLON	REFERENCE INFORMATION
[502A00]	MFC 501(0A49) DR3 3A-0 (BDM) (VEI)(VR)	-4.310	-11.700	25.550	-1.630	SREF 2741.8000 SQ. FT
[502A01]	MFC 501(0A49) DR3 3A-0 (BDM) (VEI)(VR)	4.160	-11.700	25.550	-1.670	LREF 481.6480 IN.
[502A02]	MFC 501(0A49) DR3 3A-0 (BDM) (VEI)(VR)	13.130	-11.700	25.550	-1.650	BREF 936.7000 IN.
[502A03]	MFC 501(0A49) DR3 3A-0 (BDM) (VEI)(VR)	16.730	-11.700	25.550	-1.680	WREF 1081.3600 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040



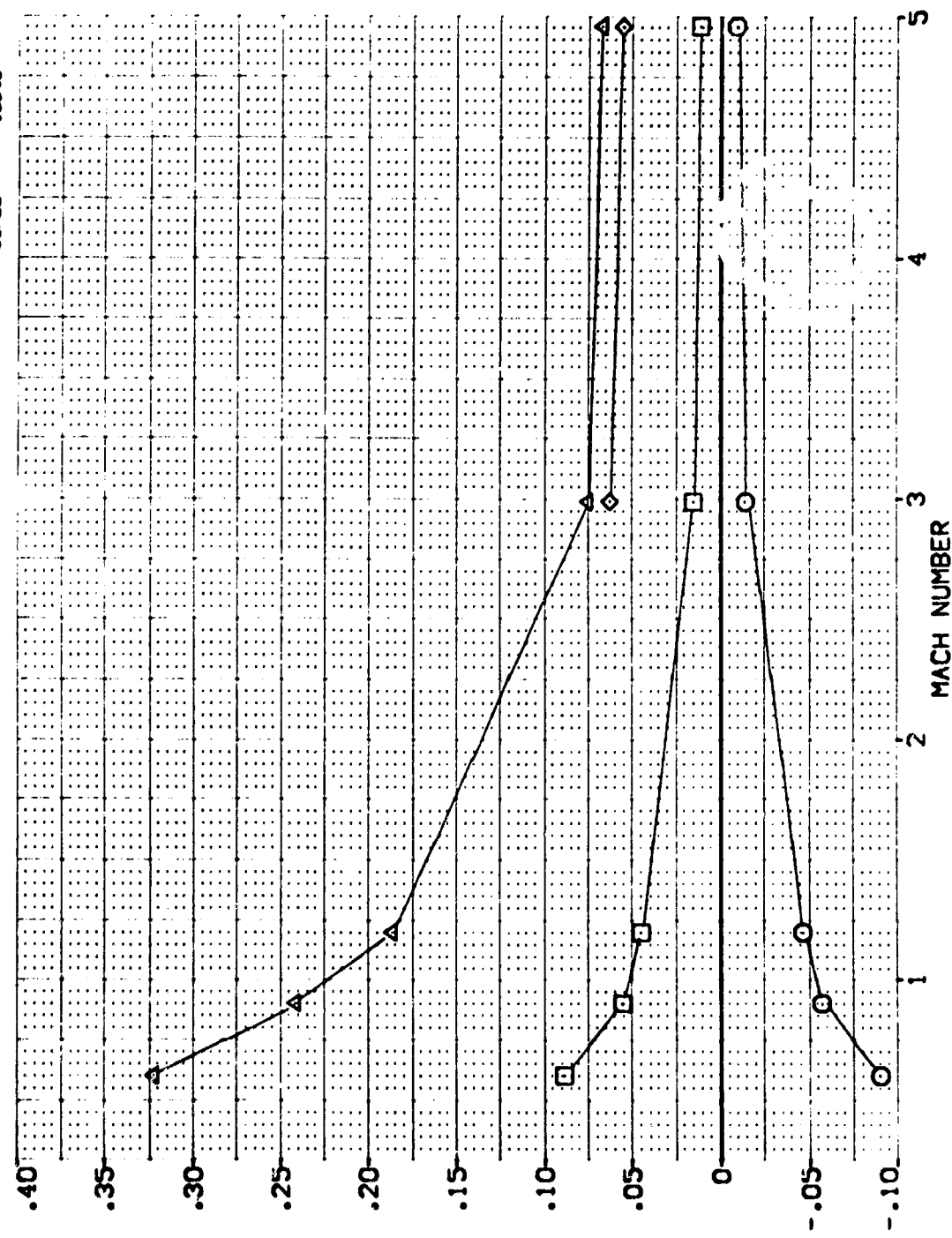
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(DJALPHA = 15.00



INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDFLAP	STOBRK	AILNDR	REFERENCE INFORMATION
[502A03]	HSFC 501(0A49) 0/3 3A-0 (BDM) (VEI(VR))	-1.310	-11.700	25.550	-0.500	SREF 2741.8000 50. FT
[502A04]	HSFC 501(0A49) 0/3 3A-0 (BDM) (VEI(VR))	1.160	-11.700	25.550	-0.670	LREF 481.6460 IN.
[502A05]	HSFC 501(0A49) 0/3 3A-0 (BDM) (VEI(VR))	13.130	-11.700	25.550	-0.650	BREF 906.7000 IN.
[502A06]	HSFC 501(0A49) 0/3 3A-0 (BDM) (VEI(VR))	16.790	-11.700	25.550	-1.650	XREF 1081.3500 IN.
						YREF .0000 IN.
						ZREF .0000 IN.
						SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)ALPHA = 20.00

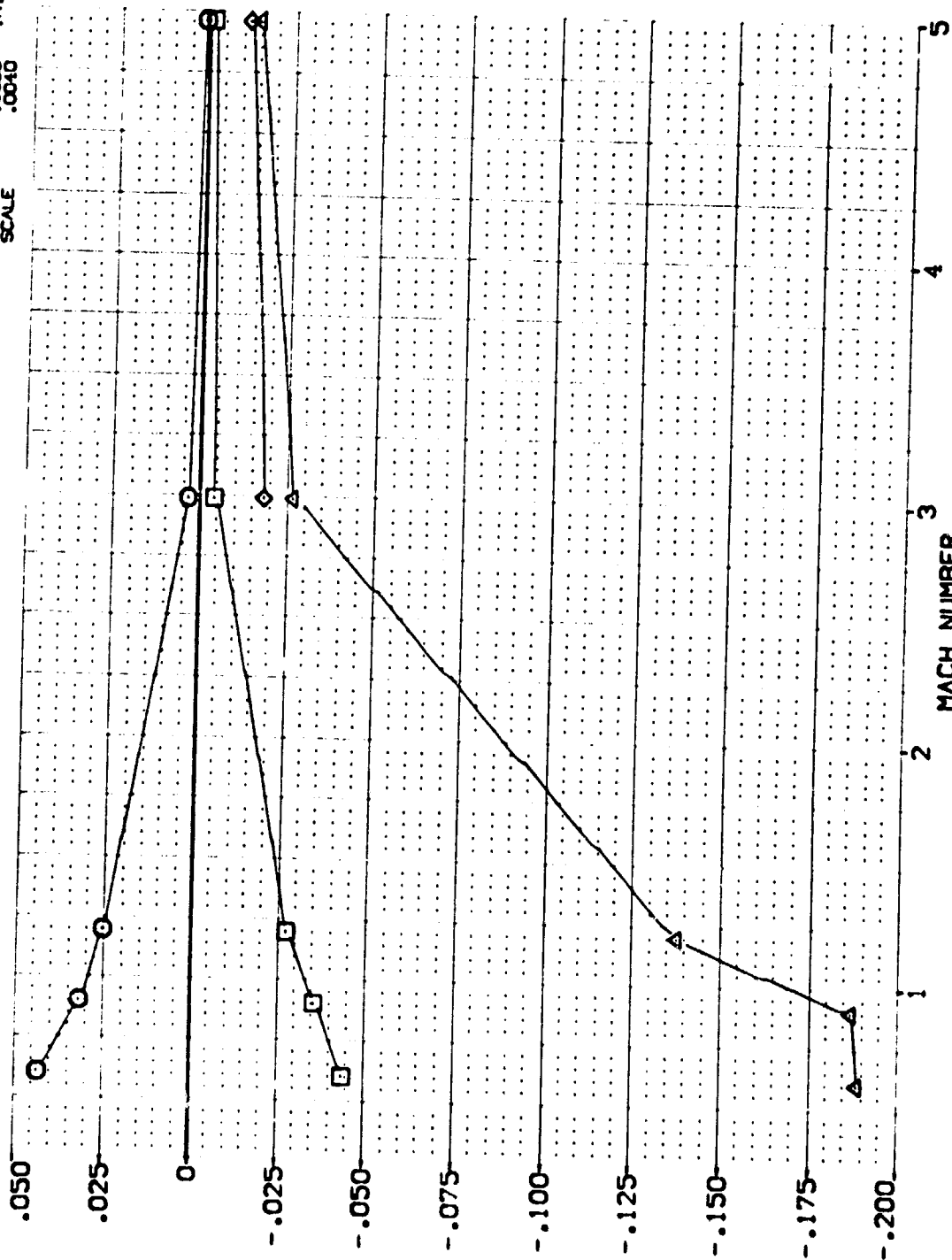
DATA SET SYMBL. CONFIGURATION DESCRIPTION

(002A03) MSFC 531(CA49) 079 3A-0 (BCFH) (VEI(VR)
 (002A04) MSFC 531(CA49) 079 3A-0 (BCFH) (VEI(VR)
 (002A05) MSFC 531(CA49) 079 3A-0 (BCFH) (VEI(VR)
 (002A06) MSFC 531(CA49) 079 3A-0 (BCFH) (VEI(VR)

DELEVR -4.310 80FLAP -11.700 STDBRK 25.550 ALLRON -630
 4.160 -11.700 25.550 -670
 13.130 -11.700 25.550 -650
 16.790 -11.700 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XHREF 1081.3900 IN.
 YHREF .0000 IN.
 ZHREF .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

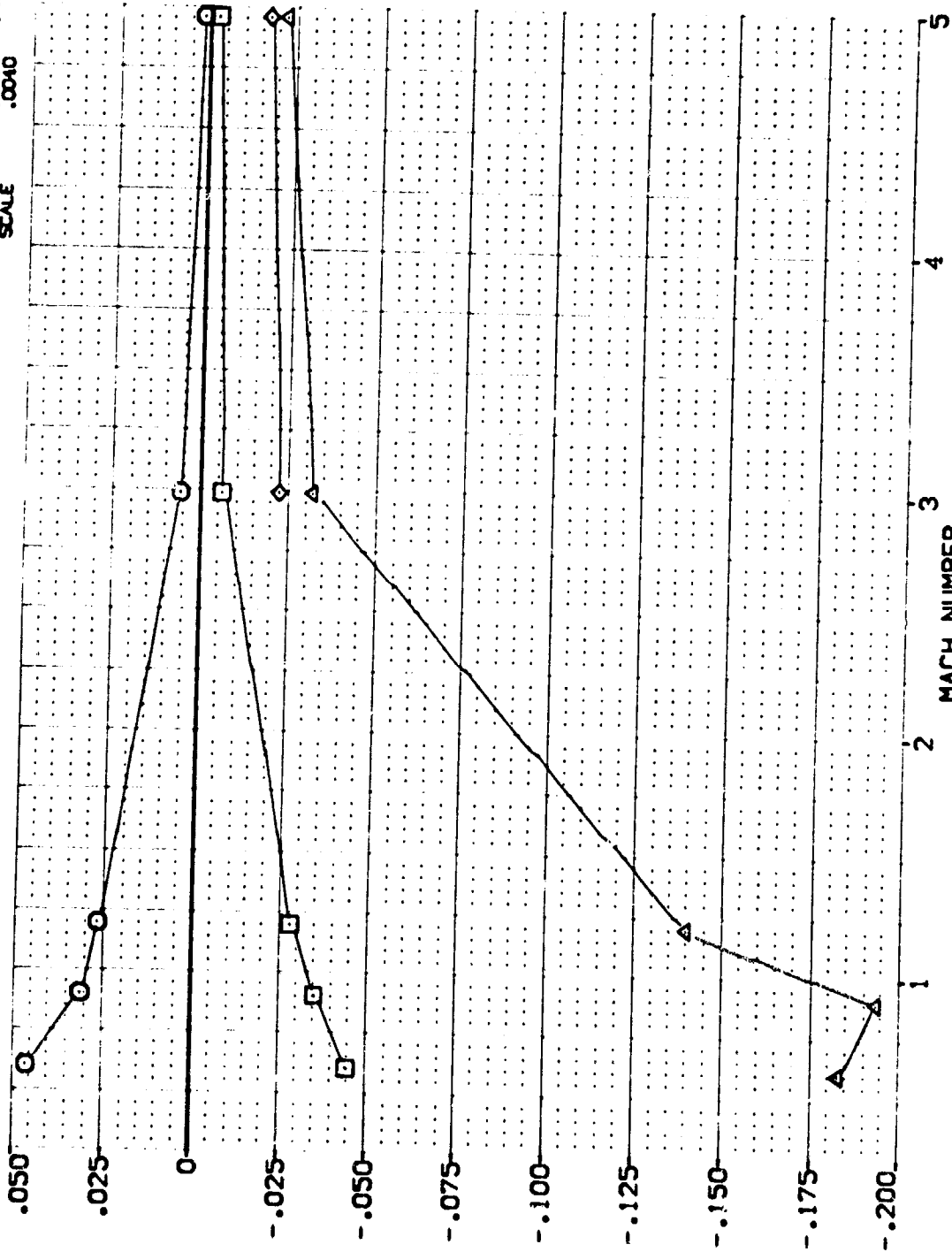
(A)ALPHA = .00

DATA SET SYMBOLS

(322A03) (322A04) (322A05) (322A06)
 (322A07) (322A08) (322A09) (322A10)
 (322A11) (322A12) (322A13) (322A14)
 (322A15) (322A16) (322A17) (322A18)
 (322A19) (322A20) (322A21) (322A22)
 (322A23) (322A24) (322A25) (322A26)
 (322A27) (322A28) (322A29) (322A30)
 (322A31) (322A32) (322A33) (322A34)
 (322A35) (322A36) (322A37) (322A38)
 (322A39) (322A40) (322A41) (322A42)
 (322A43) (322A44) (322A45) (322A46)
 (322A47) (322A48) (322A49) (322A50)
 (322A51) (322A52) (322A53) (322A54)
 (322A55) (322A56) (322A57) (322A58)
 (322A59) (322A60) (322A61) (322A62)
 (322A63) (322A64) (322A65) (322A66)
 (322A67) (322A68) (322A69) (322A70)
 (322A71) (322A72) (322A73) (322A74)
 (322A75) (322A76) (322A77) (322A78)
 (322A79) (322A80) (322A81) (322A82)
 (322A83) (322A84) (322A85) (322A86)
 (322A87) (322A88) (322A89) (322A90)
 (322A91) (322A92) (322A93) (322A94)
 (322A95) (322A96) (322A97) (322A98)
 (322A99) (322A00) (322A01) (322A02)

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

DELEV -4.310 4.160 13.130 16.730
 80FLAP -11.700 -11.700 -11.700 -11.700
 9703BK 25.550 25.550 25.550 25.550
 AILCON -600 -670 -650 -1.680
 REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XTRP 1081.3500 IN.
 YTRP 0.0000 IN.
 ZTRP 0.0000 IN.
 SCALE 0.0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

MSFC 591(DA49)	DRB 34-0 (BCFM)	(VEI)(VR)
MSFC 591(DA49)	DRB 34-0 (BCFM)	(VEI)(VR)
MSFC 591(DA49)	DRB 34-0 (BCFM)	(VEI)(VR)
MSFC 591(DA49)	DRB 34-0 (BCFM)	(VEI)(VR)

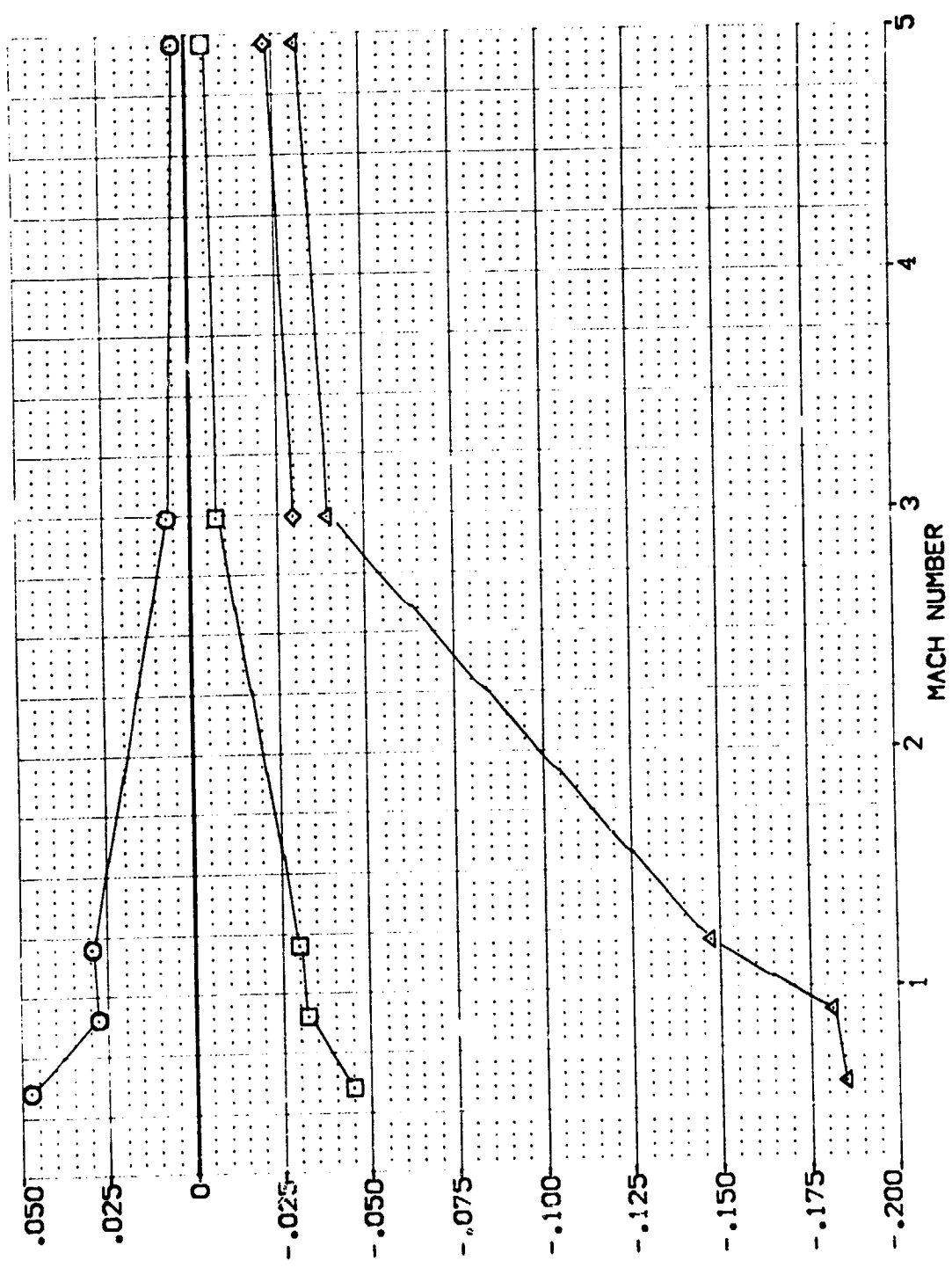
REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XPRP	1081.3900	IN.
YPRP	.0000	IN.
ZPRP	.0000	IN.
SCALE	.0040	

DELEVR BOFLAP SPDRBK AILRON

-4.310	-11.700	25.550	-1.630
4.160	-11.700	25.550	-1.670
13.130	-11.700	25.550	-1.650
16.790	-11.700	25.550	-1.680

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

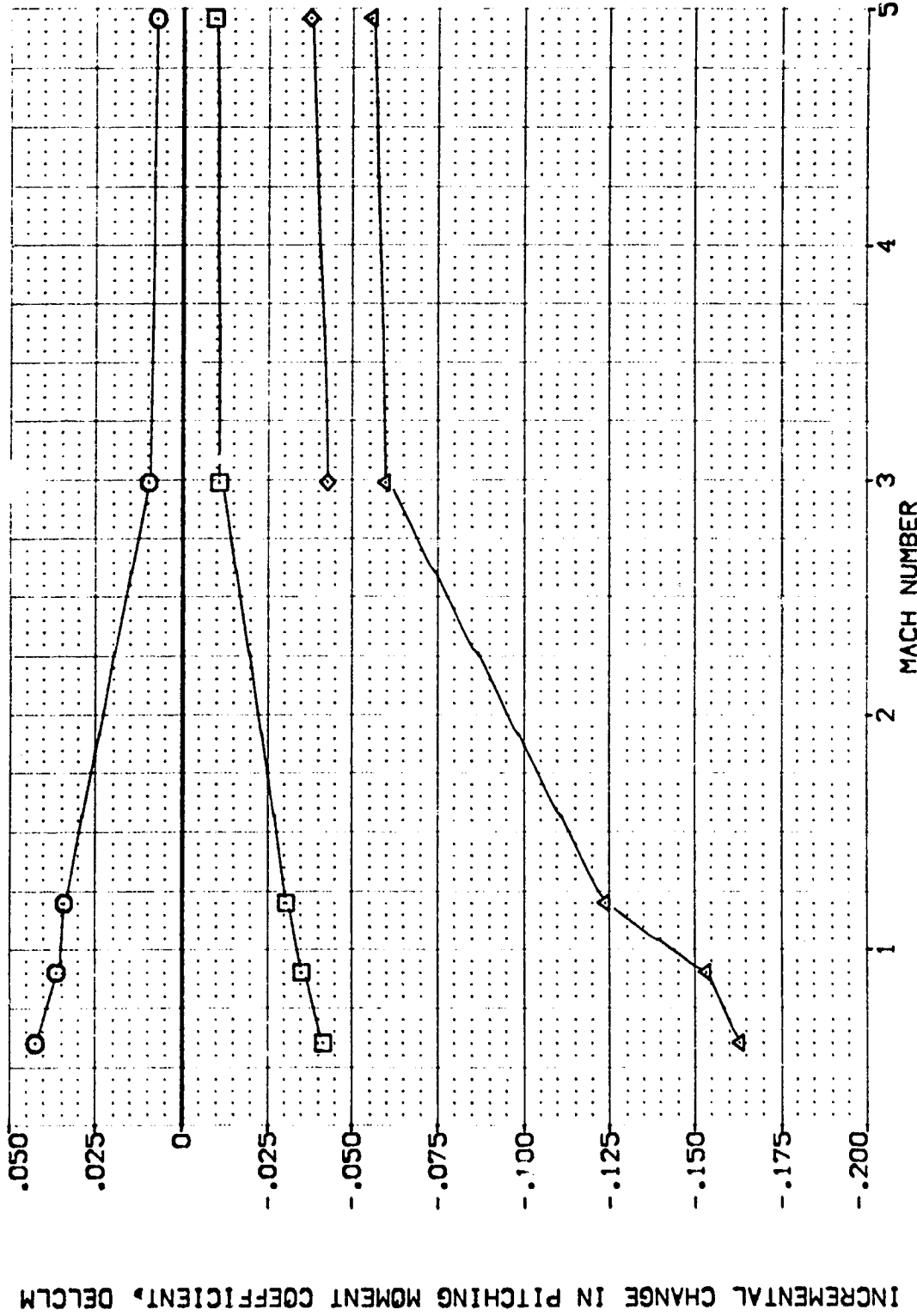


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C) ALPHA = 10.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	(WE) (VR)
(552A03)	H5TC 501 (0A49) CDB 34-0 (BDM)	(WE) (VR)
(552A04)	H5TC 501 (0A49) CDB 34-0 (BDM)	(WE) (VR)
(552A07)	H5TC 501 (0A49) CDB 34-0 (BDM)	(WE) (VR)
(552A05)	H5TC 501 (0A49) CDB 34-0 (BDM)	(WE) (VR)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPOBRK	AILERON	REFERENCE INFORMATION
{592A03}	MSFC 531(OA19) 073 34-0 (BDPH) (VE)(VR)	-4.310	-11.700	25.550	-630	SREF 2741.8000 SQ. FT
{592A04}	MSFC 531(OA19) 073 34-0 (BDPH) (VE)(VR)	4.160	-11.700	25.550	-670	LREF 481.6480 IN.
{59A107}	MSFC 531(OA19) 073 34-0 (BDPH) (VE)(VR)	13.130	-11.700	25.550	-650	BREF 936.7000 IN.
{592A05}	MSFC 531(OA19) 073 34-0 (BDPH) (VE)(VR)	16.790	-11.700	25.550	-1.680	XPRP 1081.3500 IN.
						YPRP .0000 IN.
						ZPRP .0000 IN.
						SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)ALPHA = 20.00

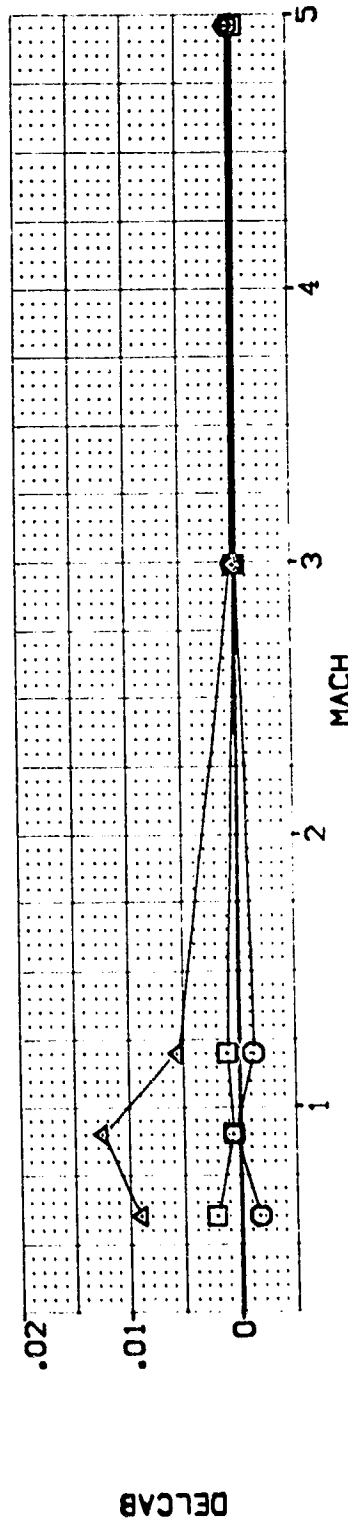
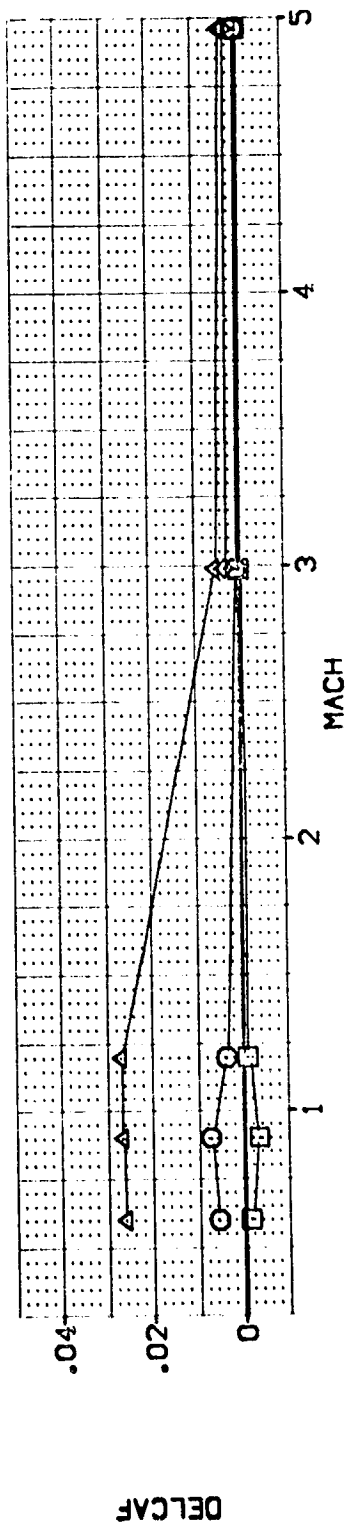
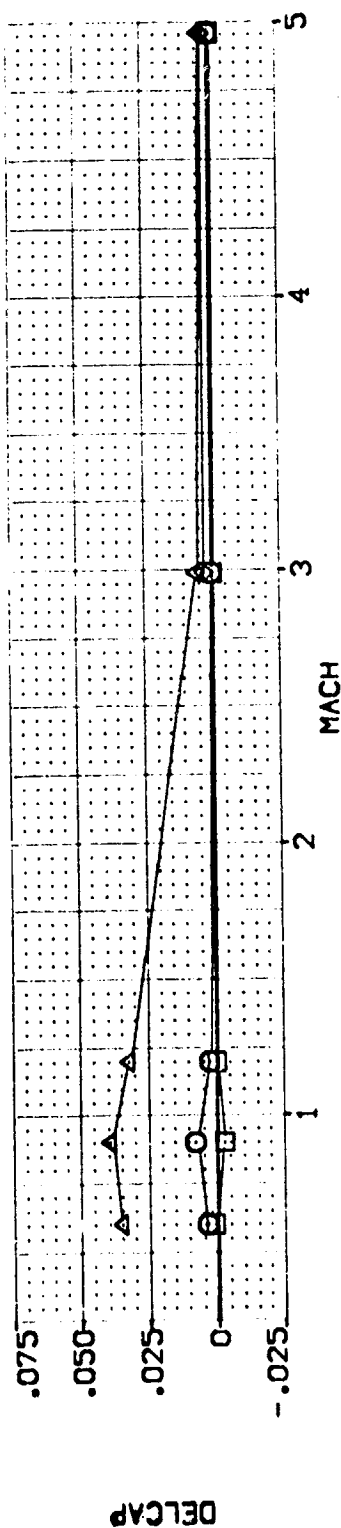
DATA SET SYMBOL CONFIGURATION DESCRIPTION

(S22A03)	□	MSTC S31(CA49) 0°B 34-0 (BDH) (VE)(VR)
(S22A04)	△	MSTC S31(CA49) 0°B 34-0 (BDH) (VE)(VR)
(S22A05)	×	MSTC S31(CA49) 0°B 34-0 (BDH) (VE)(VR)

DELEVR -4.310
 BOFLAP -11.700
 SPOBRK 25.550
 ALLRON -1.800

REFERENCE INFORMATION

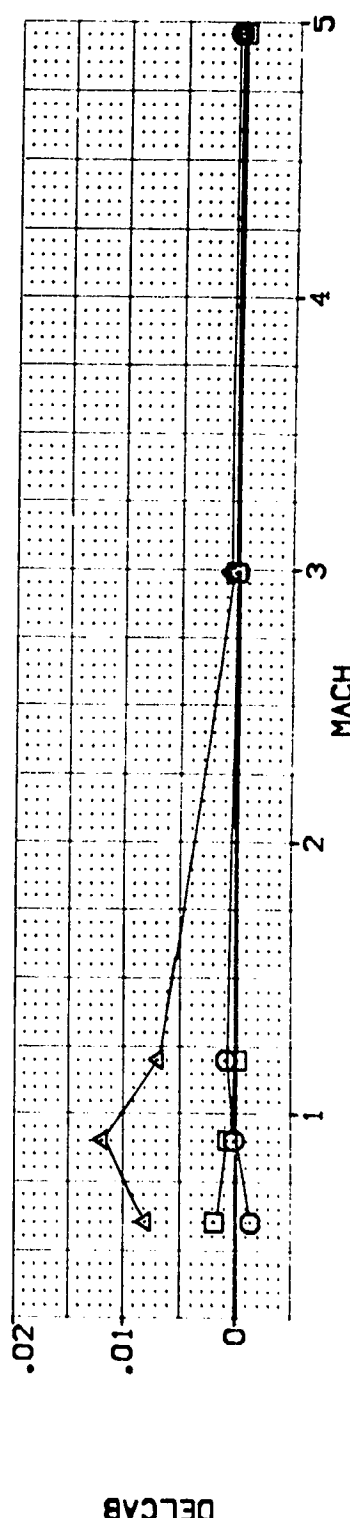
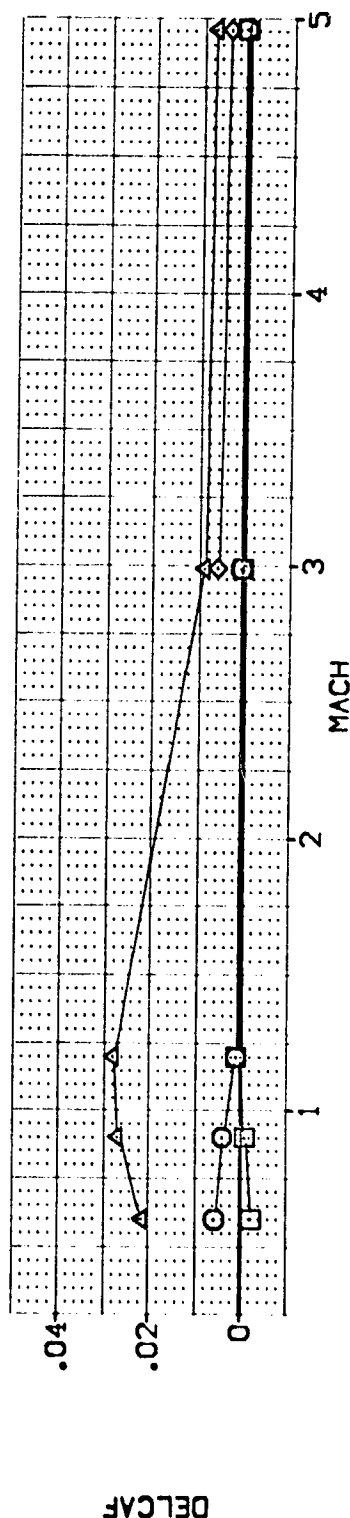
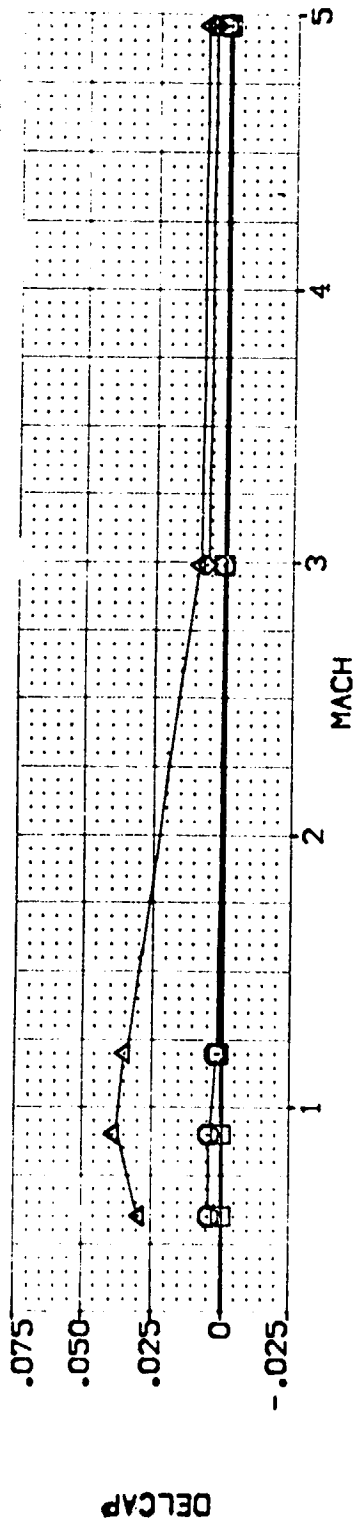
SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XPRP	1081.3900	IN.
ZPRP	.0000	IN.
SCALE	.0040	



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A) ALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPDBRK	ALLRON	REFERENCE INFORMATION
(322A03)	MSFC 331(DA49) 033 34-0 (BDH) (VE)(VR)	-4.310	-11.700	25.550	-1.330	SREF 2741.8000 SQ. FT
(322A04)	MSFC 331(DA49) 033 34-0 (BDH) (VE)(VR)	4.160	-11.700	25.550	-1.670	LREF 481.6480 IN.
(322A07)	MSFC 331(DA49) 033 34-0 (BDH) (VE)(VR)	13.130	-11.700	25.550	-1.650	BREF 936.7000 IN.
(322A05)	MSFC 331(DA49) 033 34-0 (BDH) (VE)(VR)	16.750	-11.700	25.550	-1.680	XMRP 1081.3900 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040



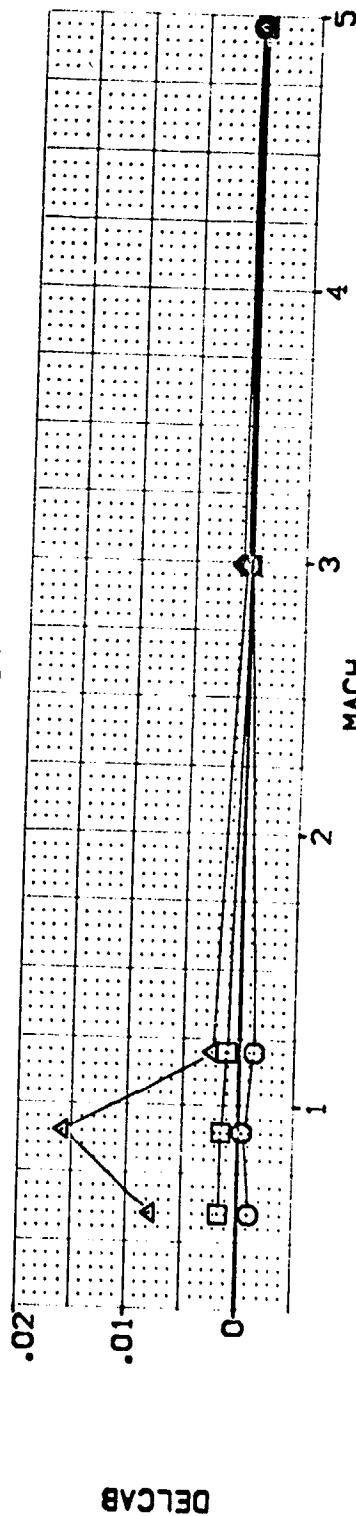
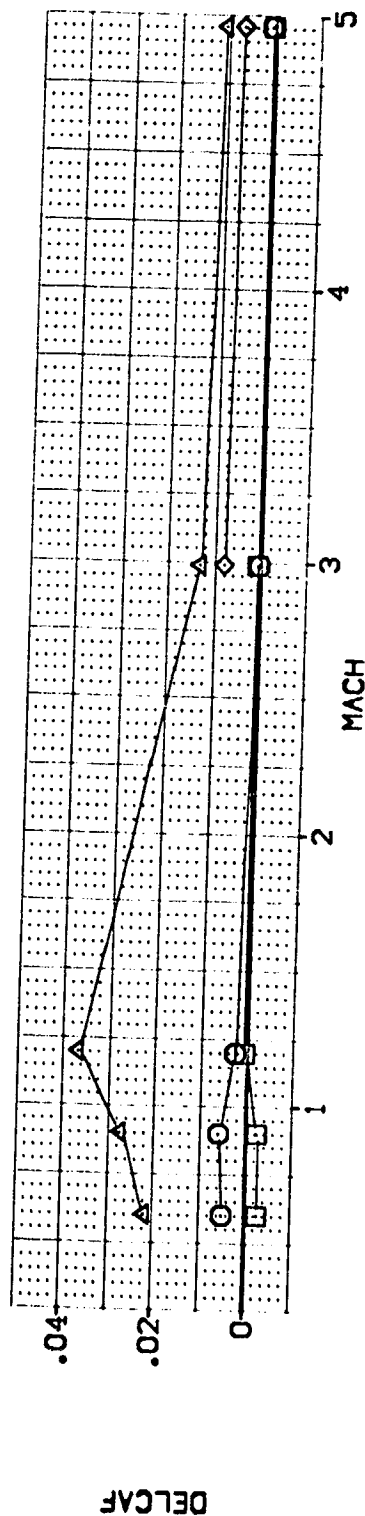
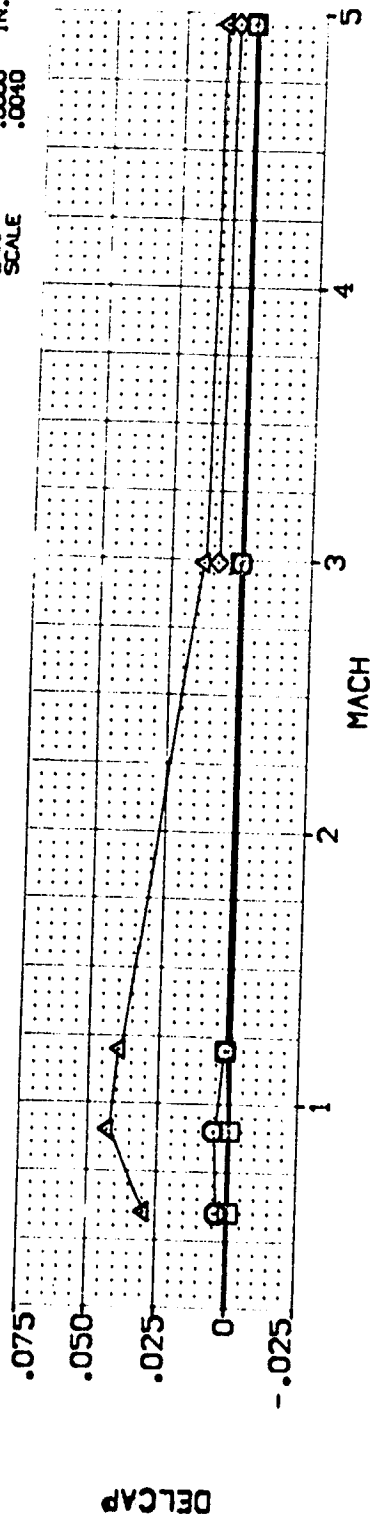
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [522A03] MSFC S31(CA19) 0-3 34-0 (BOFH) (VE)(VR)
 [522A04] MSFC S31(CA19) 0-3 34-0 (BOFH) (VE)(VR)
 [522A05] MSFC S31(CA19) 0-3 34-0 (BOFH) (VE)(VR)

DELEVR BOFLAP SPDRBK ALLRON
 -4.310 -11.700 25.550 -1.630
 4.160 -11.700 25.550 -1.670
 13.130 -11.700 25.550 -1.650
 16.790 -11.700 25.550 -1.690

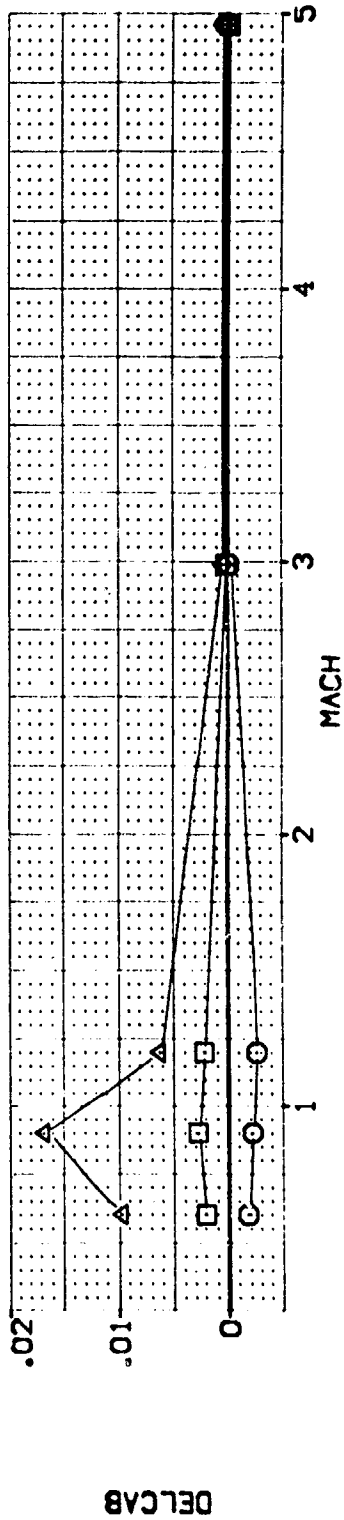
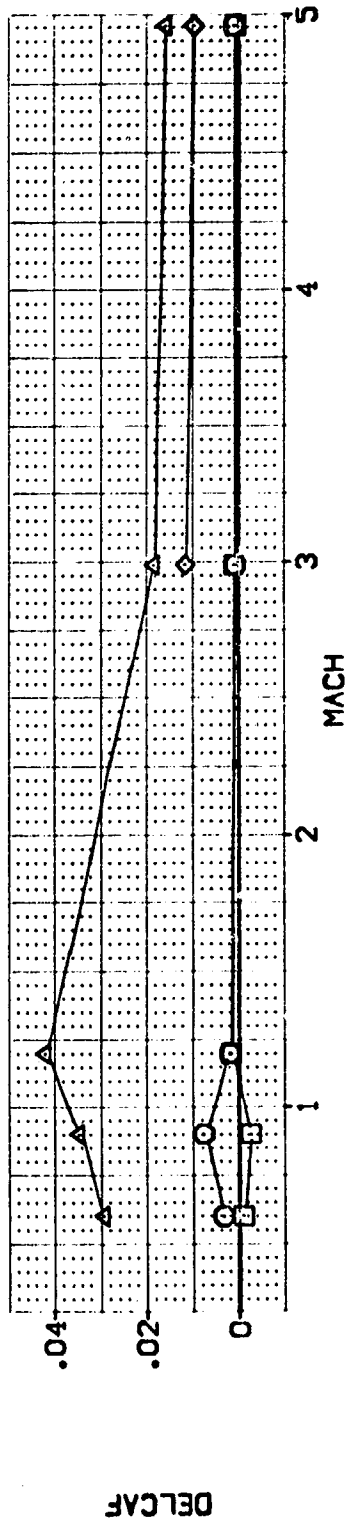
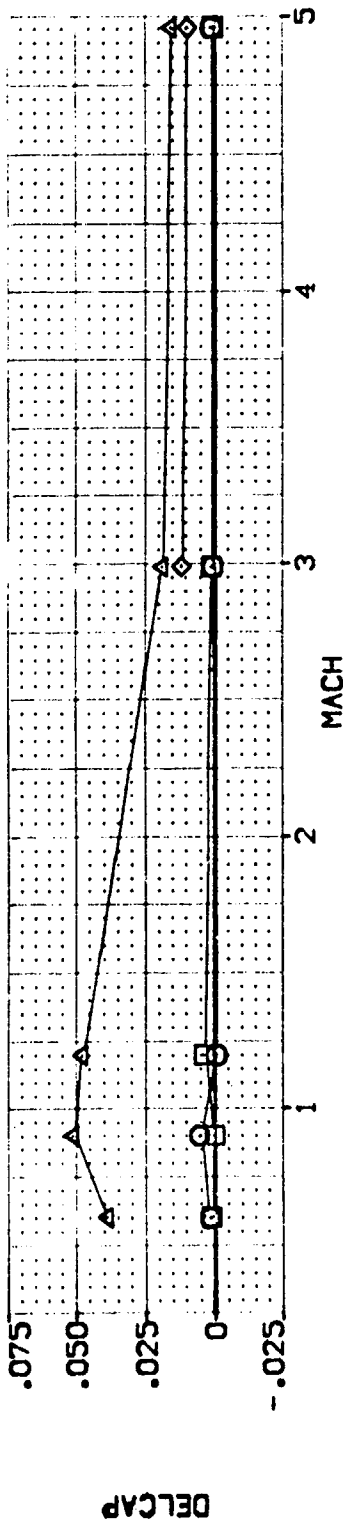
REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C) ALPHA = 10.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BDFLAP	SPOBRK	AILRON	REFERENCE INFORMATION			
[592A03]	MSFC S01(0A49) 023 3A-0 (BDFM) (VE)(VR)	-4.310	-11.700	25.550	-530	SREF	2741.8000	50. FT	
[592A04]	MSFC S01(0A49) 023 3A-0 (BDFM) (VE)(VR)	4.160	-11.700	25.550	-670	LREF	481.6480	IN:	
[592A107]	MSFC S01(0A49) 023 3A-0 (BDFM) (VE)(VR)	13.130	-11.700	25.550	-650	BREF	936.7000	IN:	
[592A05]	MSFC S01(0A49) 023 3A-0 (BDFM) (VE)(VR)	16.750	-11.700	25.550	-1.680	XMRP	1081.3500	IN:	
						YMRP	.0000	IN:	
						ZMRP	.0000	IN:	
						SCALE	.0040		



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

CO ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

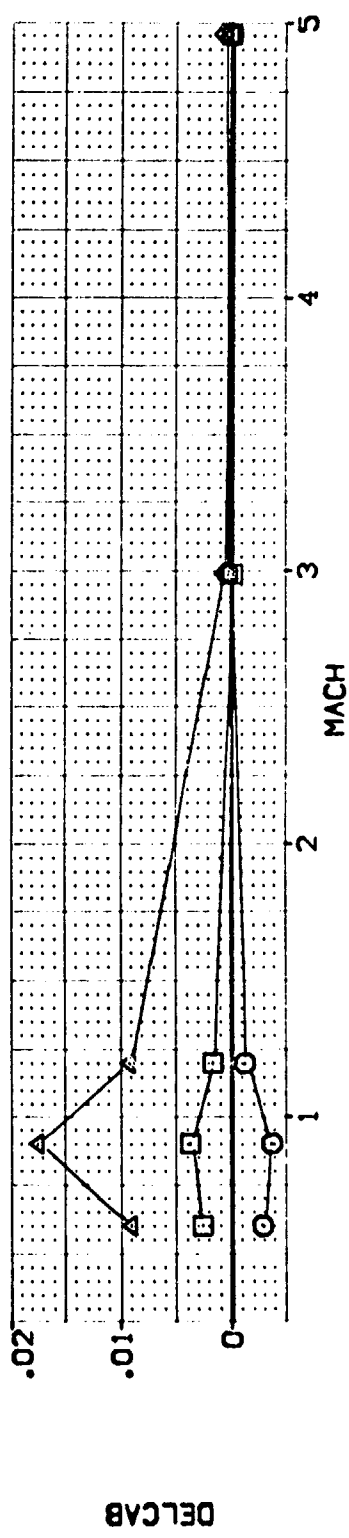
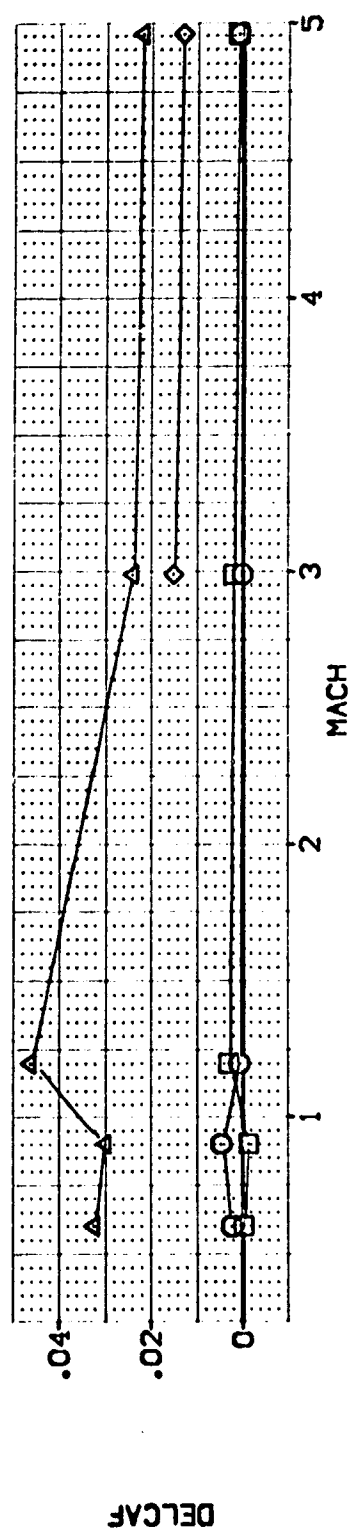
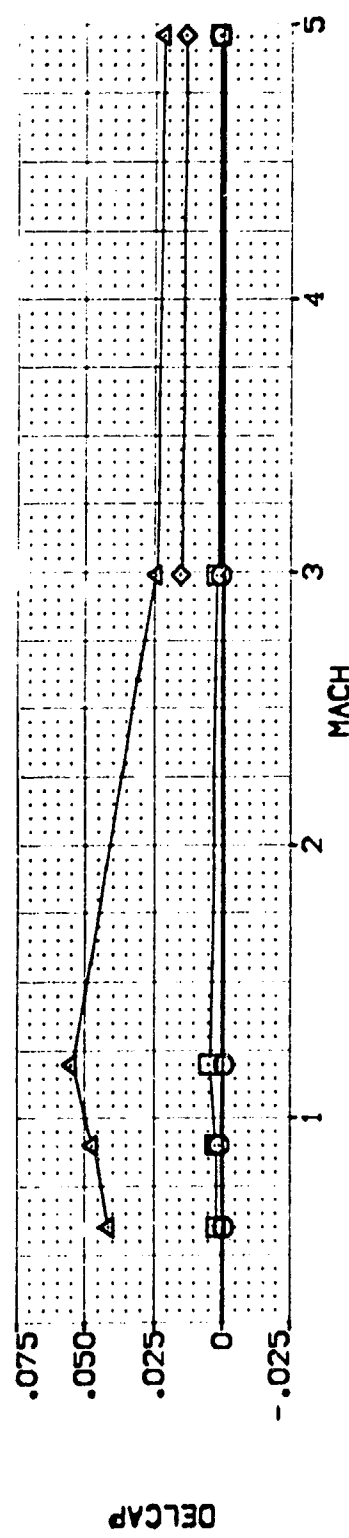
DATA SET	SYMBOL	CONFIGURATION	DESCRIPTION
(S22A03)	□	MSFC S31(OA49) 033 34-0 (E0TH)	(VE)(VR)
(S22A04)	△	MSFC S31(OA49) 033 34-0 (E0TH)	(VE)(VR)
(S2A107)	○	MSFC S31(OA49) 033 34-0 (E0TH)	(VE)(VR)
(S32A05)	×	MSFC S31(OA49) 033 34-0 (E0TH)	(VE)(VR)

DELEVR 80FLAP SPOBRK ALLRON

DELEVR	80FLAP	SPOBRK	ALLRON
-4.310	-11.700	25.550	-1.630
4.160	-11.700	25.550	-1.670
13.130	-11.700	25.550	-1.650
16.790	-11.700	25.550	-1.680

REFERENCE INFORMATION

REFERENCE INFORMATION	UNIT
SREF	2741.8000
LREF	491.6480
BREF	936.7000
XREF	1081.3800
YREF	.0000
ZREF	.0000
SCALE	.0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)
(E)ALPHA = 20.00

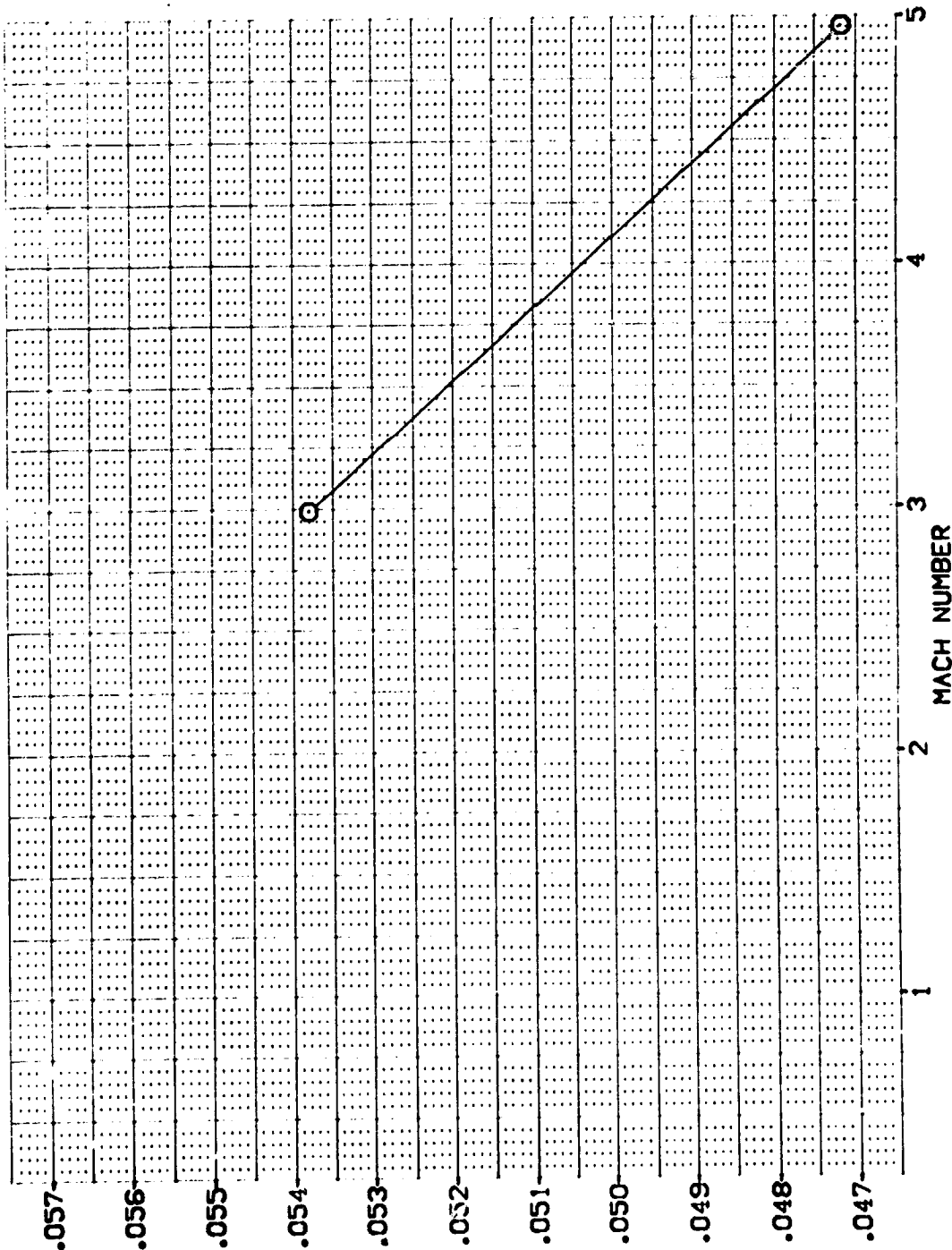


DATA SET SHEET. CONFIGURATION DESCRIPTION
(588107) O MSFC 581(0419) 078 34-0 (8074)(VE)(VR)

DELEVR 80FLAP SP08RK AILRON
13.130 -11.700 25.550 -1.650

REFERENCE INFORMATION
SREF 2741.8000 80. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XHP 1081.3900 IN.
YHP 0.0000 IN.
ZHP 0.0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL



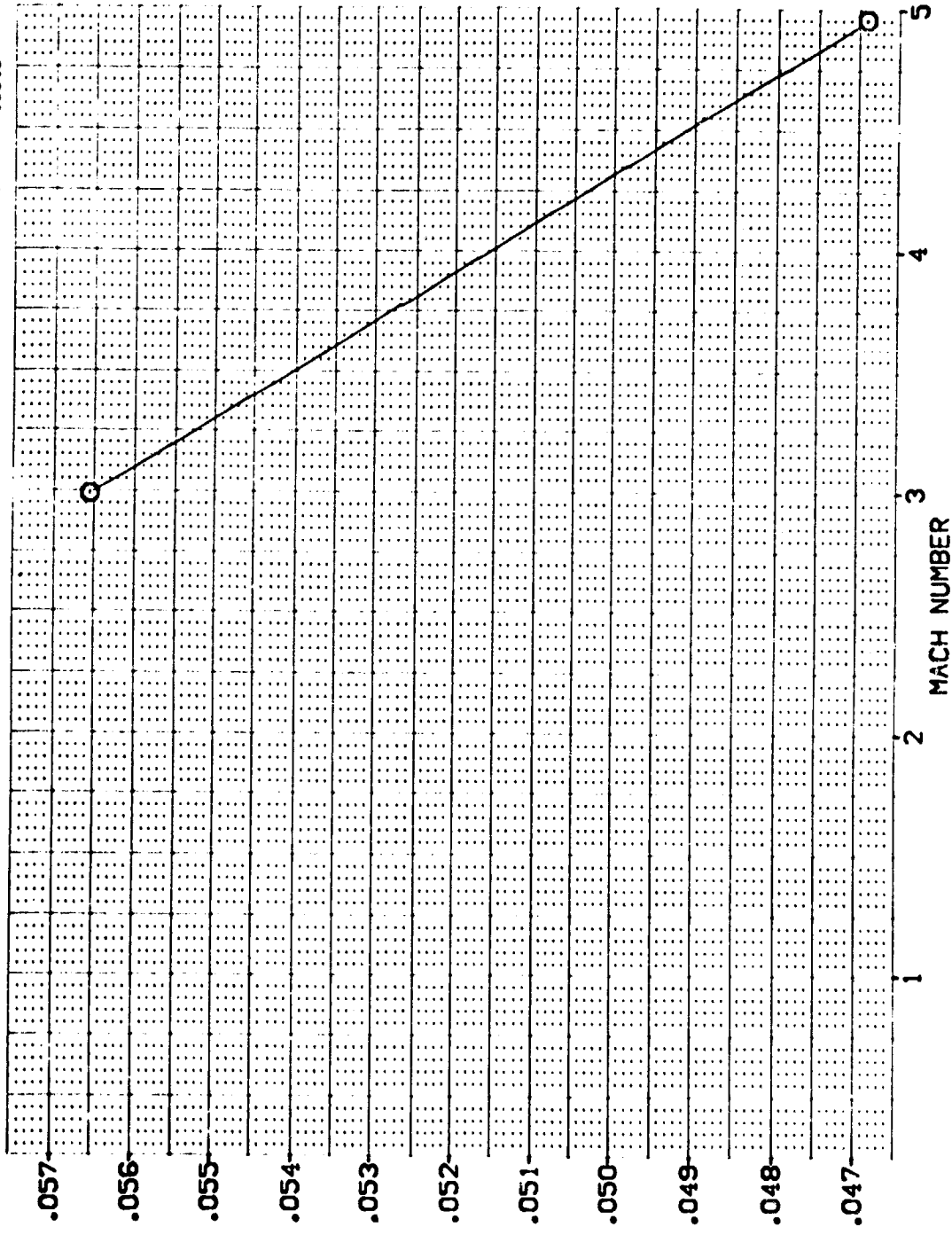
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(ALPHA = 20.00

DATA SET SYMBOL: 0
 CONFIGURATION DESCRIPTION: M9C 581(D49) 088 34-0 (BDFM)(VE)(VR)

DELEVR 13.130
 BDFLAP -11.700
 SPOBRK 25.550
 AILRON -.650

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

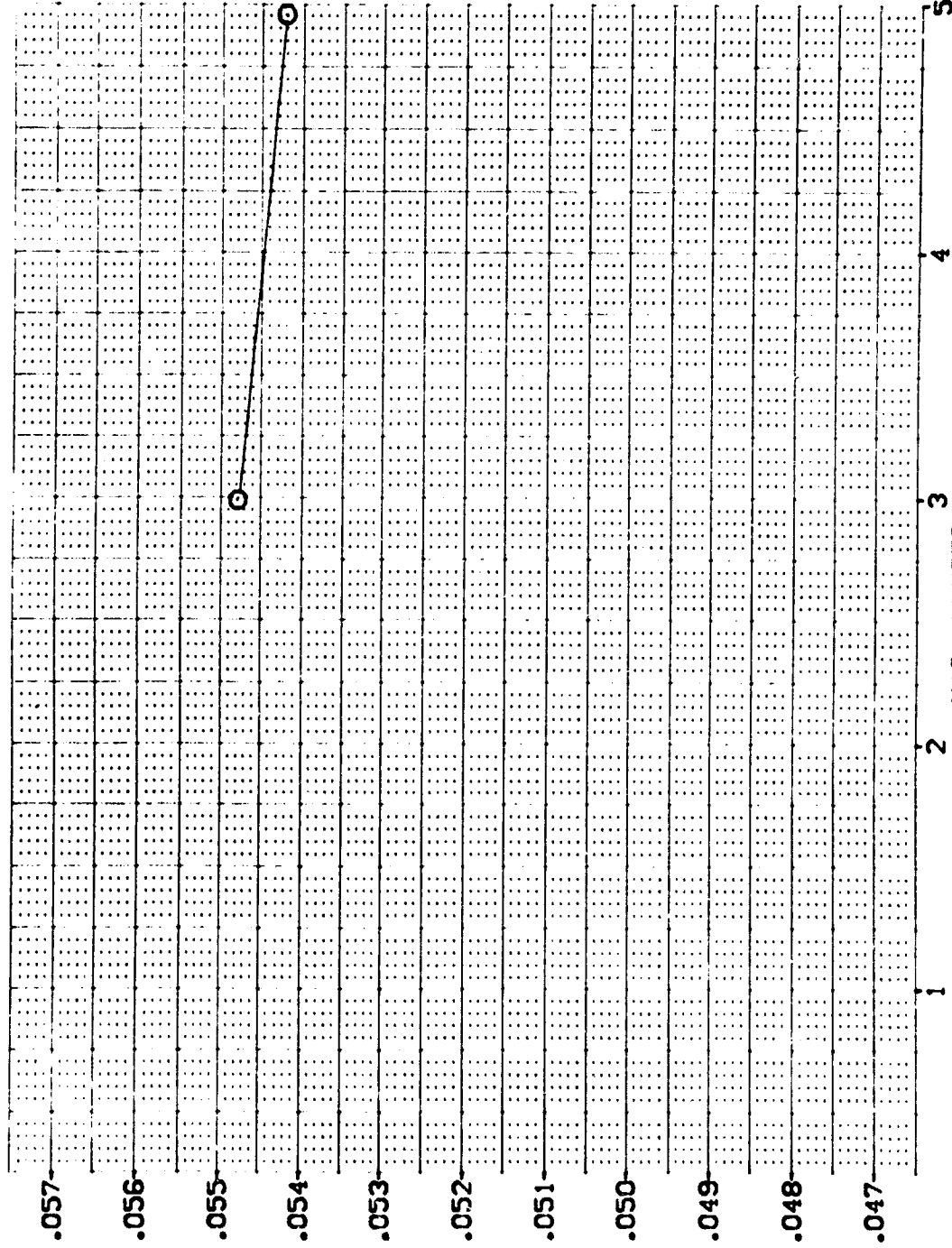
(B)ALPHA = 25.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (553107) O H5FC 581(0449) 088 34-0 (807H)(VE)(VR)

DELEVR 80FLAP 80DBRK AILRON
 13.130 -11.700 25.550 -.650

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL



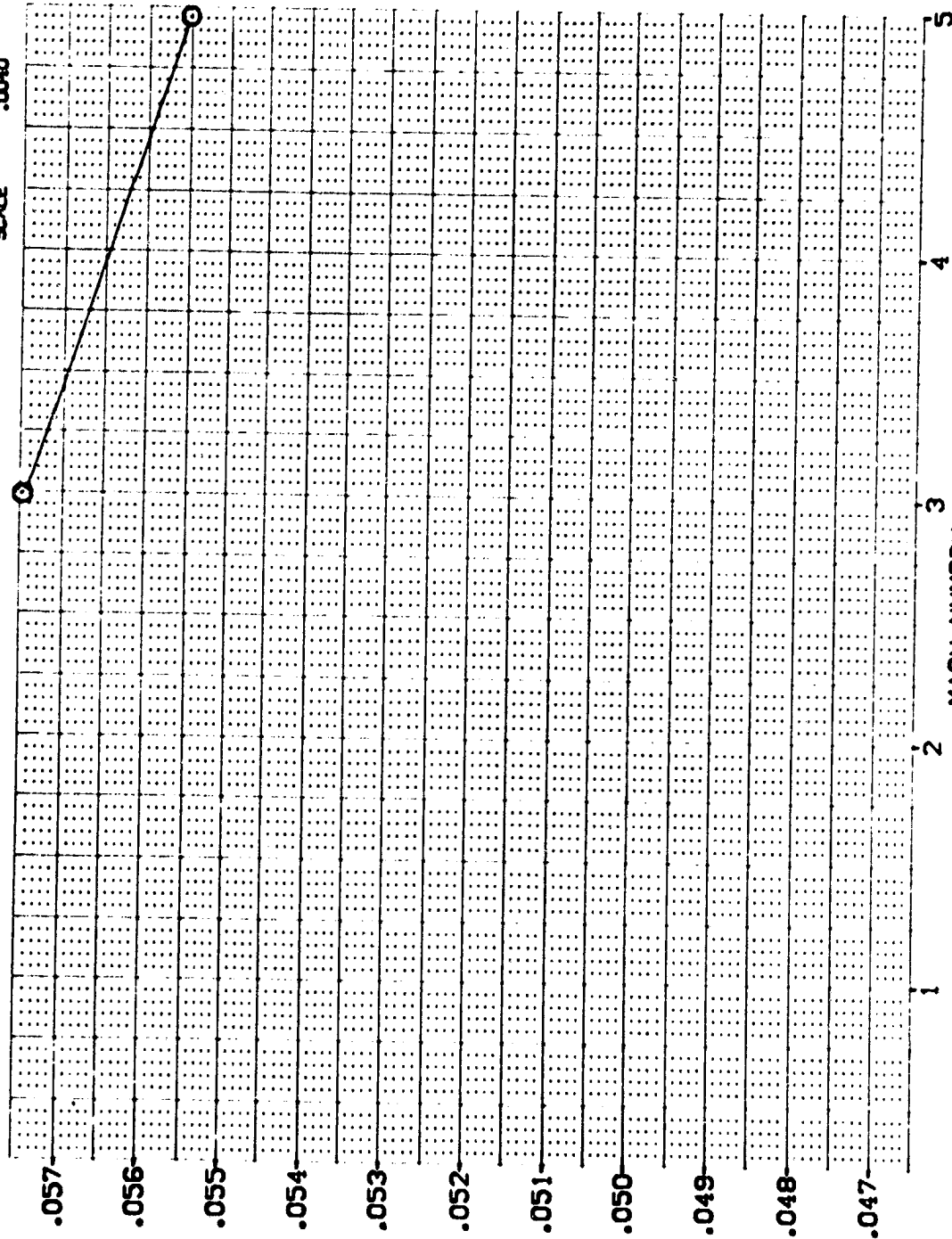
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)ALPHA = 30.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(558107) O 19-C 591(049) 018 34-0 (8074)(VE)(VR)

DELEV 80FLAP 57038K AILCON
13.130 -11.700 25.550 -1.650

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XREF 1081.3800 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

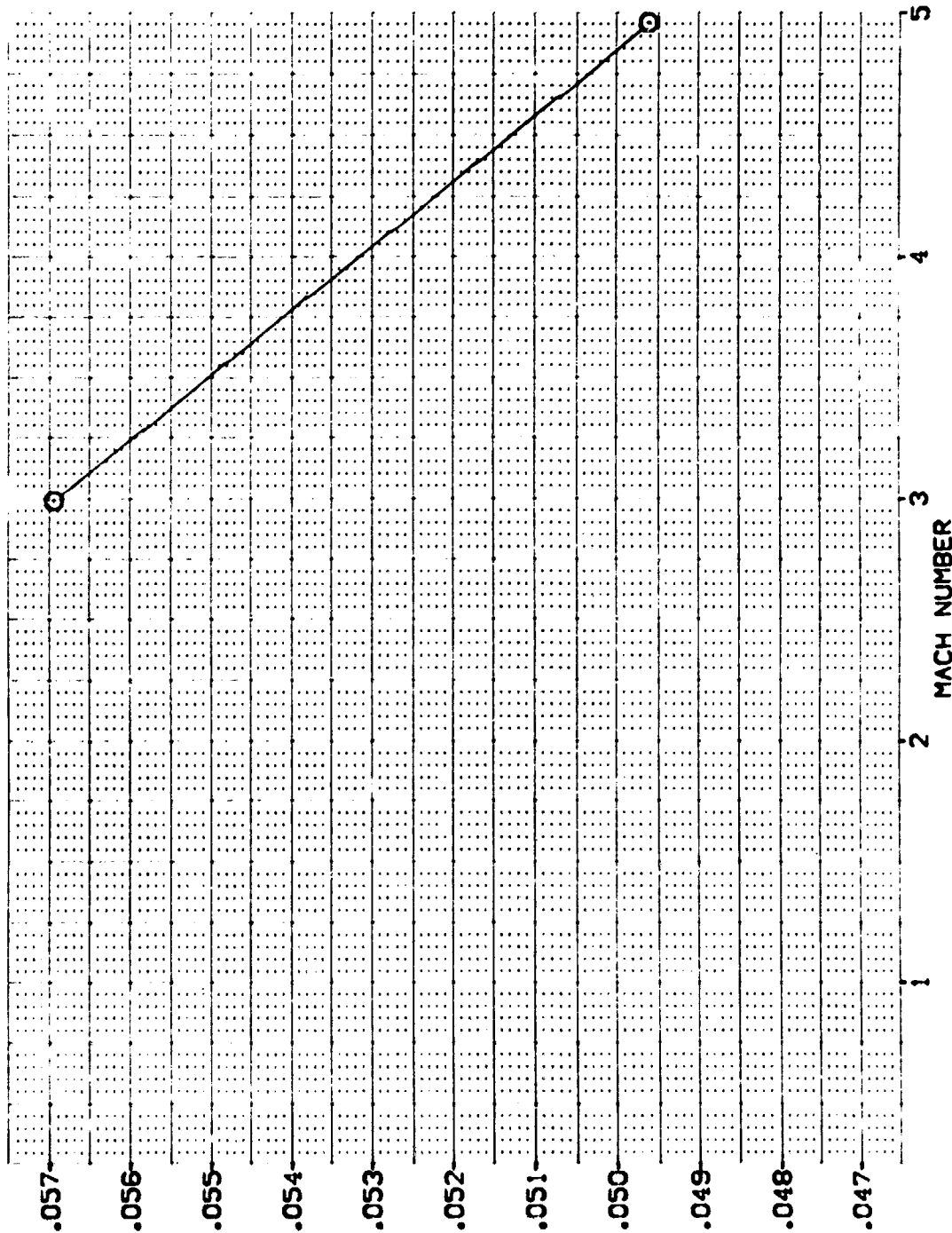
(C)ALPHA = 35.00

DATA SET 5880. CONFIGURATION DESCRIPTION
(588107) O MSC 581(045) 000 34-0 (80PH)(VE)(VR)

DELEV 80FLAP 97000X AILRON
13.130 -11.700 25.550 -6.50

REFERENCE INFORMATION
SREF 2741.9000 SQ: FT
LREF 481.6180 IN.
BREF 936.7000 IN.
XREF 1081.3900 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

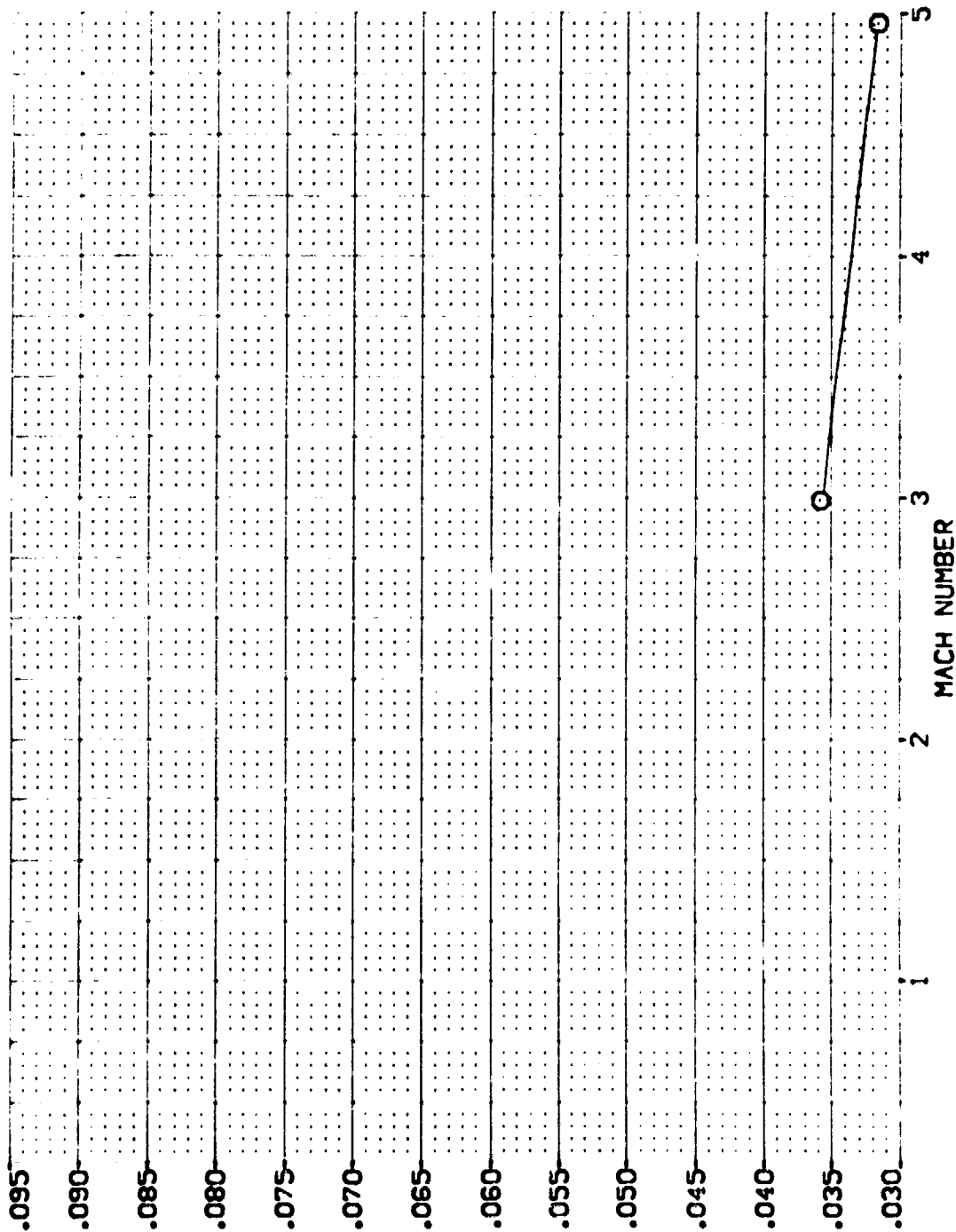
(E)ALPHA = 40.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(580107) O MFC 501(DAYS) 098 34-0 (BDTH)(VE)(VR)

DELEV 13.130 BDCLAP -11.700 SPORBK 25.550 ALLRON -.650

REFERENCE INFORMATION
SREF 7741.8000 SD. FT
LREF 491.6480 IN.
BREF 936.7000 IN.
XREF 1081.3500 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(A) ALPHA = 20.00

PAGE 362

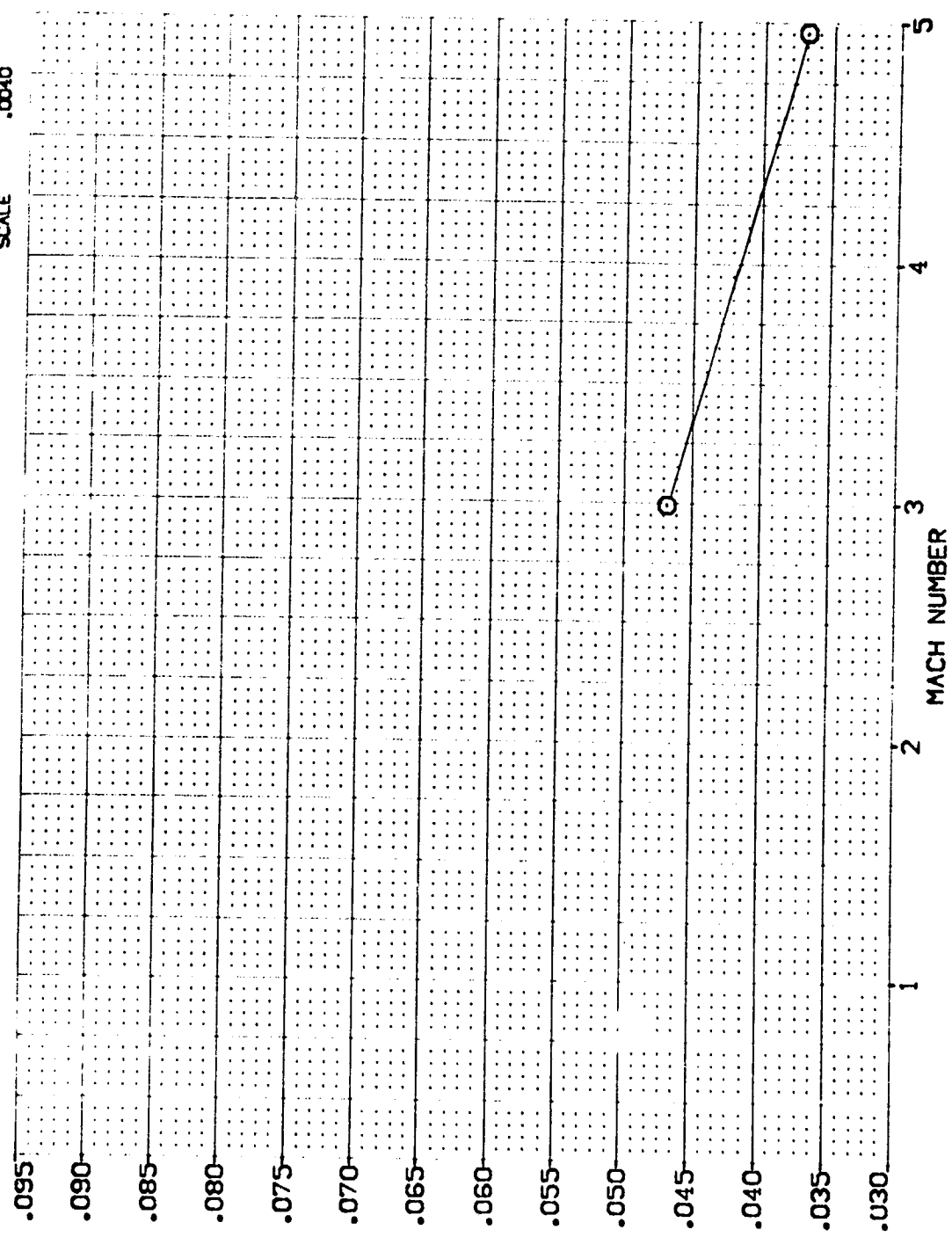


DATA SET SYMBOL: O MSFC 581(0419) 078 34-0 (BOFM)(VE)(VR)

DELEVR 13.130 BOFLAP -11.700 SPDRBK 25.550 AILRON -.650

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XTRP 1081.3900 IN.
 YTRP .0000 IN.
 ZTRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



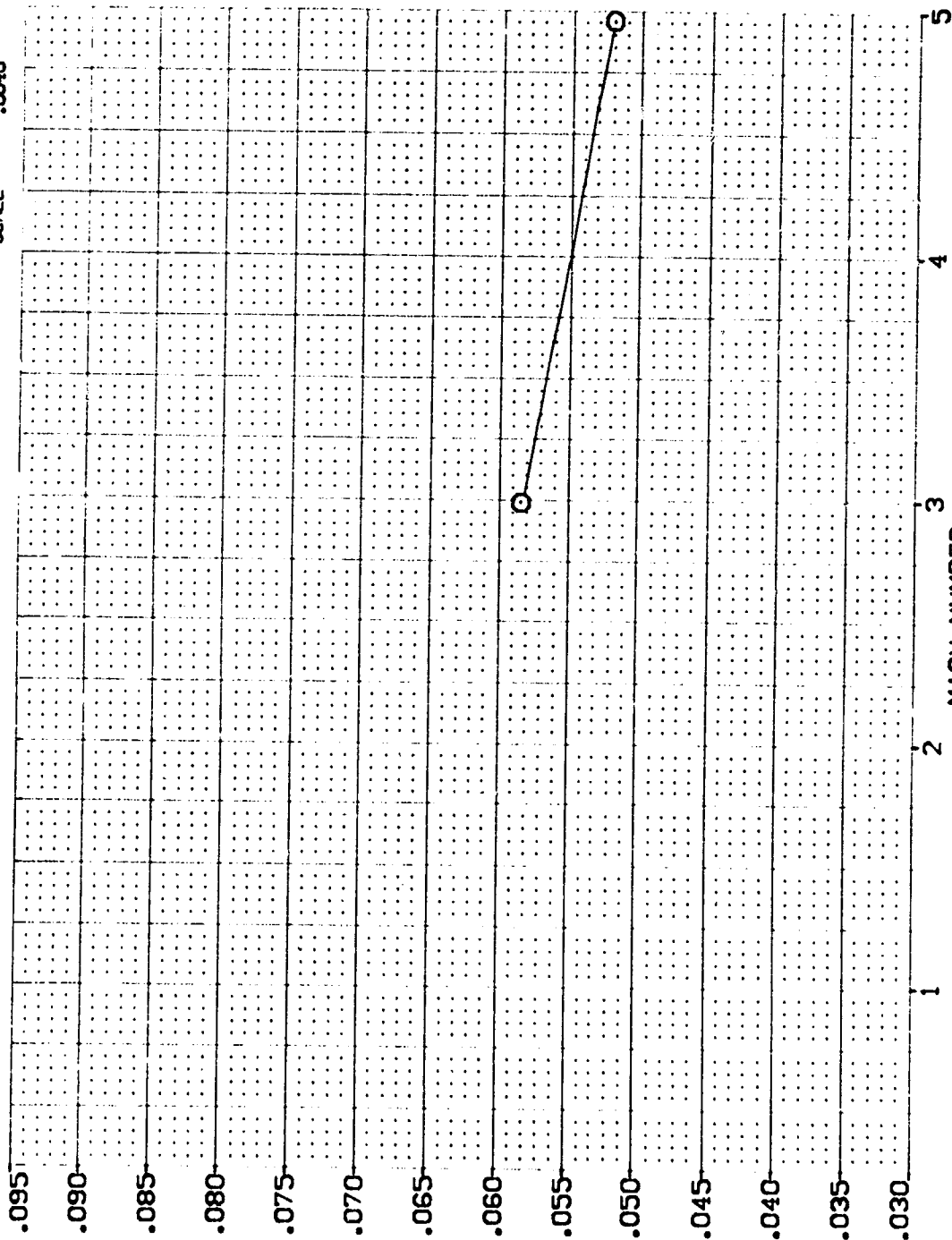
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B) ALPHA = 25.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(593107) O H5FC 591(CA49) 058 34-0 (BOFH)(VE)(VR)

DELEVR BOFLAP SPDBRK AILRON
13.130 -11.700 25.550 -.650

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XPRP 1081.3500 IN.
YPRP .0000 IN.
ZPRP .0000 IN.
SCALE .0010



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C)ALPHA = 30.00

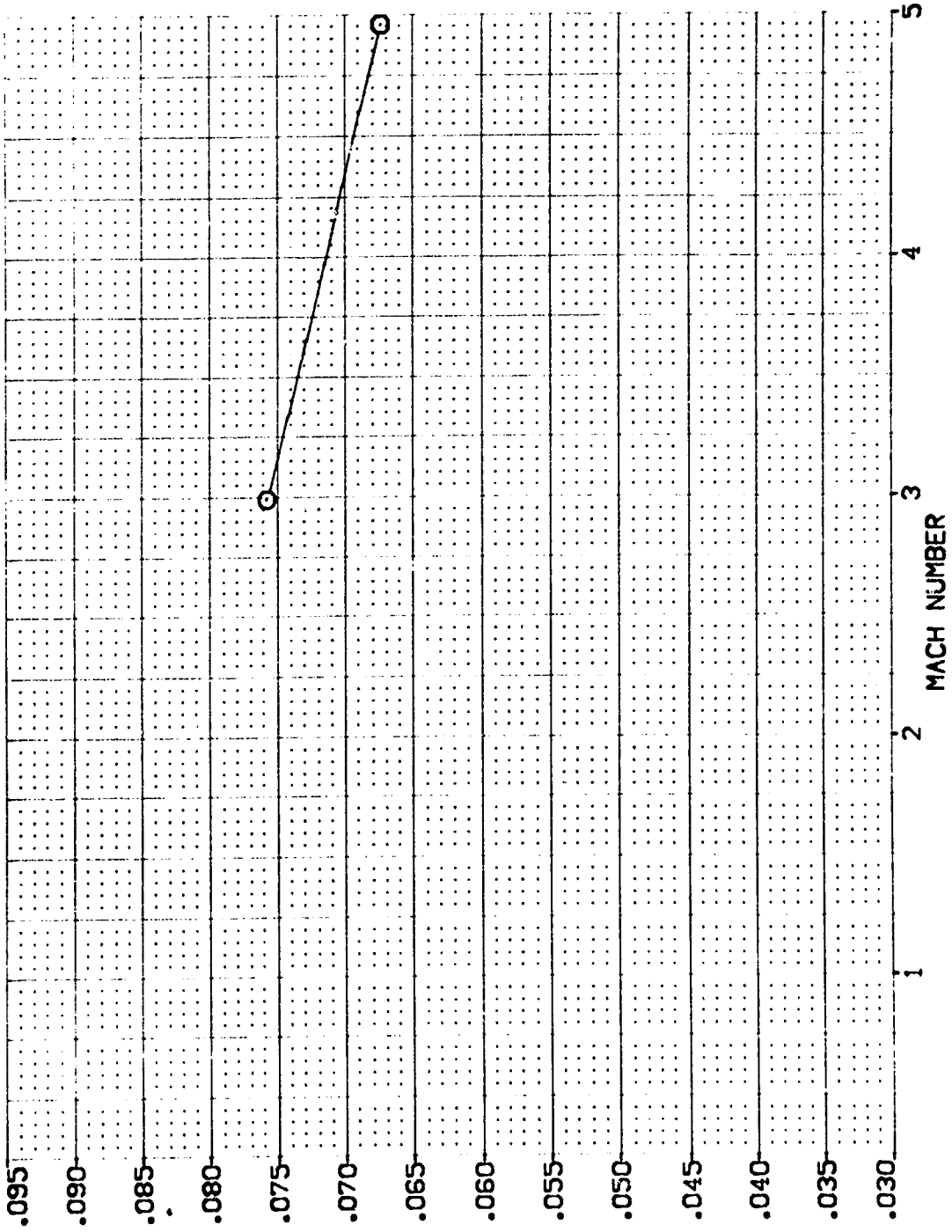


DATA SET SYMBOL CONFIGURATION DESCRIPTION
(999107) O H9FC 581(0A49) 0RB 34-0 (BOFM)(WE)(VR)

DELEVR 80FLAP 970BRK AILRON
13.130 -11.700 25.550 -.650

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3900 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0010

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



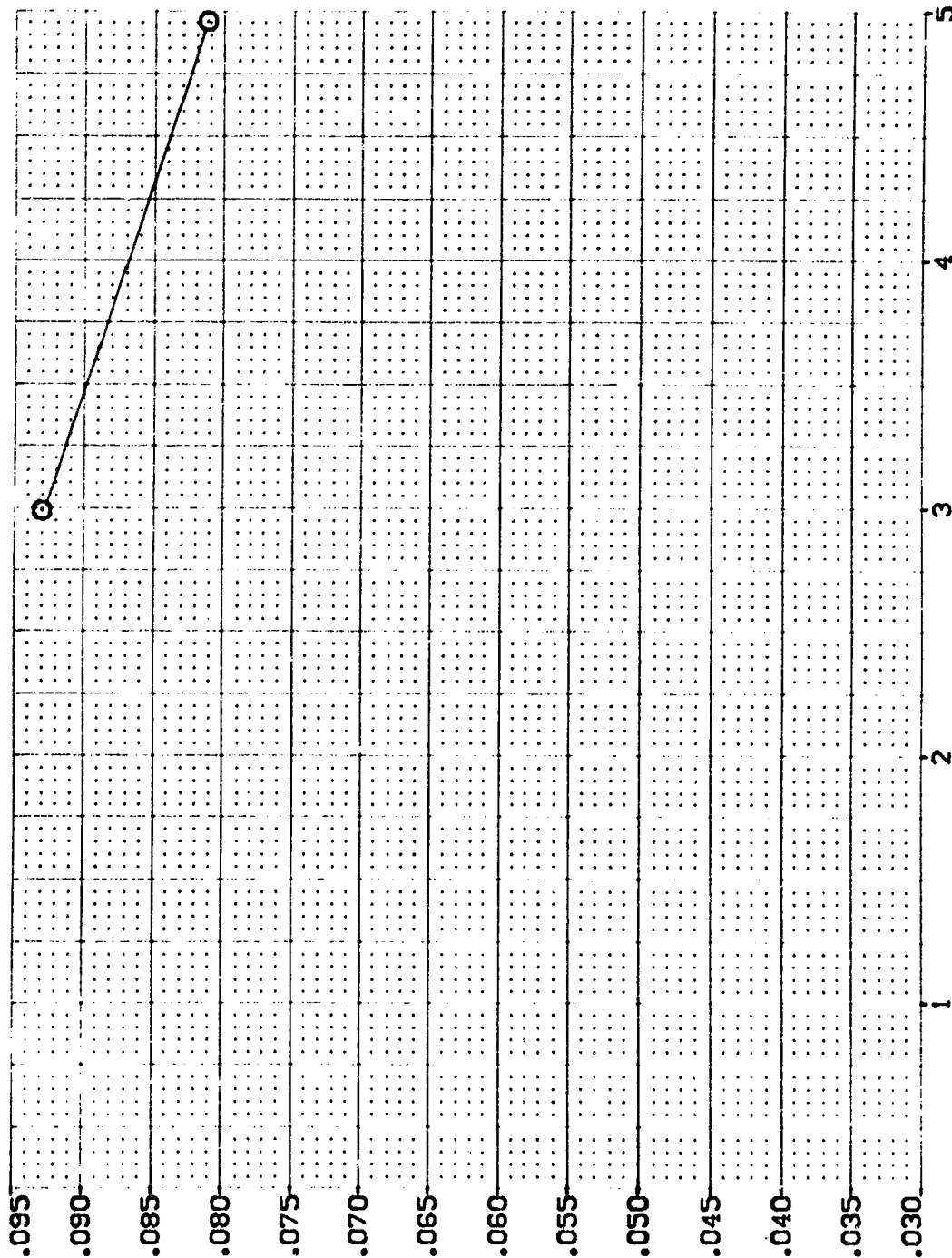
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D)ALPHA = 35.00

DATA SET SYMBOL: 5231071
 CONFIGURATION DESCRIPTION: MSFC 581(049) ORB 34-0 (BDFH)(VE)(VR)

DELEVR: 13.130
 BDFLAP: -11.700
 SPDRBK: 25.550
 AILRON: -.650

REFERENCE INFORMATION:
 SPREF: 2741.8000 SQ. FT
 LREF: 481.6480 IN.
 BRPF: 936.7000 IN.
 XMRP: 1081.3900 IN.
 YMRP: .0000 IN.
 ZMRP: .0000 IN.
 SCALE: .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

MACH NUMBER

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E)ALPHA = 40.00

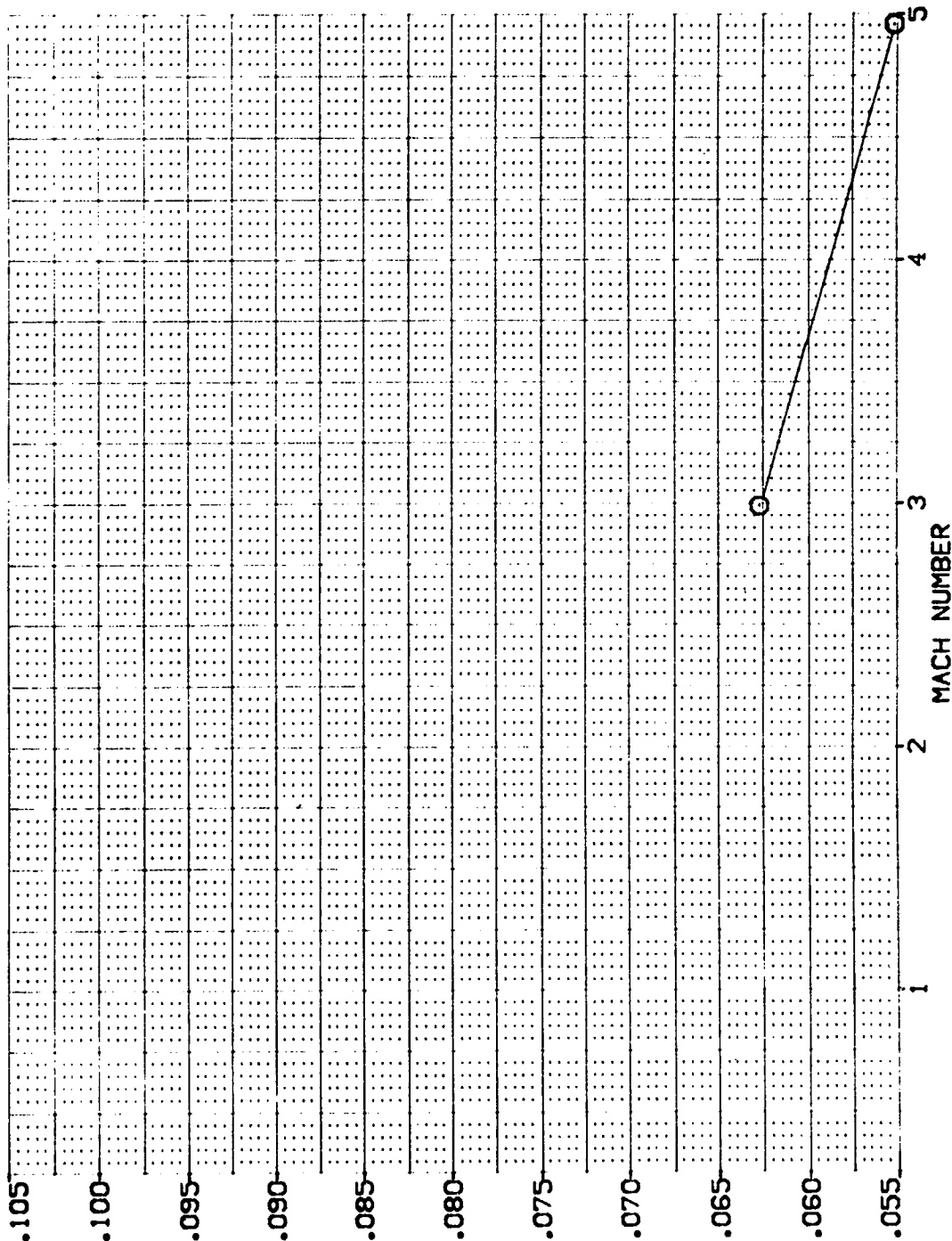


DATA SET SYMBOL: 0 MSFC 581(0449) 008 34-0 (BCFM)(VE)(VR)

DELEVR BDFLAP SP0BRK AILRON

REFERENCE INFORMATION
 SREF 2741.8000 SQ: FT
 LREF 481.6480 IN:
 BREF 936.7000 IN:
 X-RRP 1081.3500 IN:
 Y-RRP .0000 IN:
 Z-RRP .0000 IN:
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

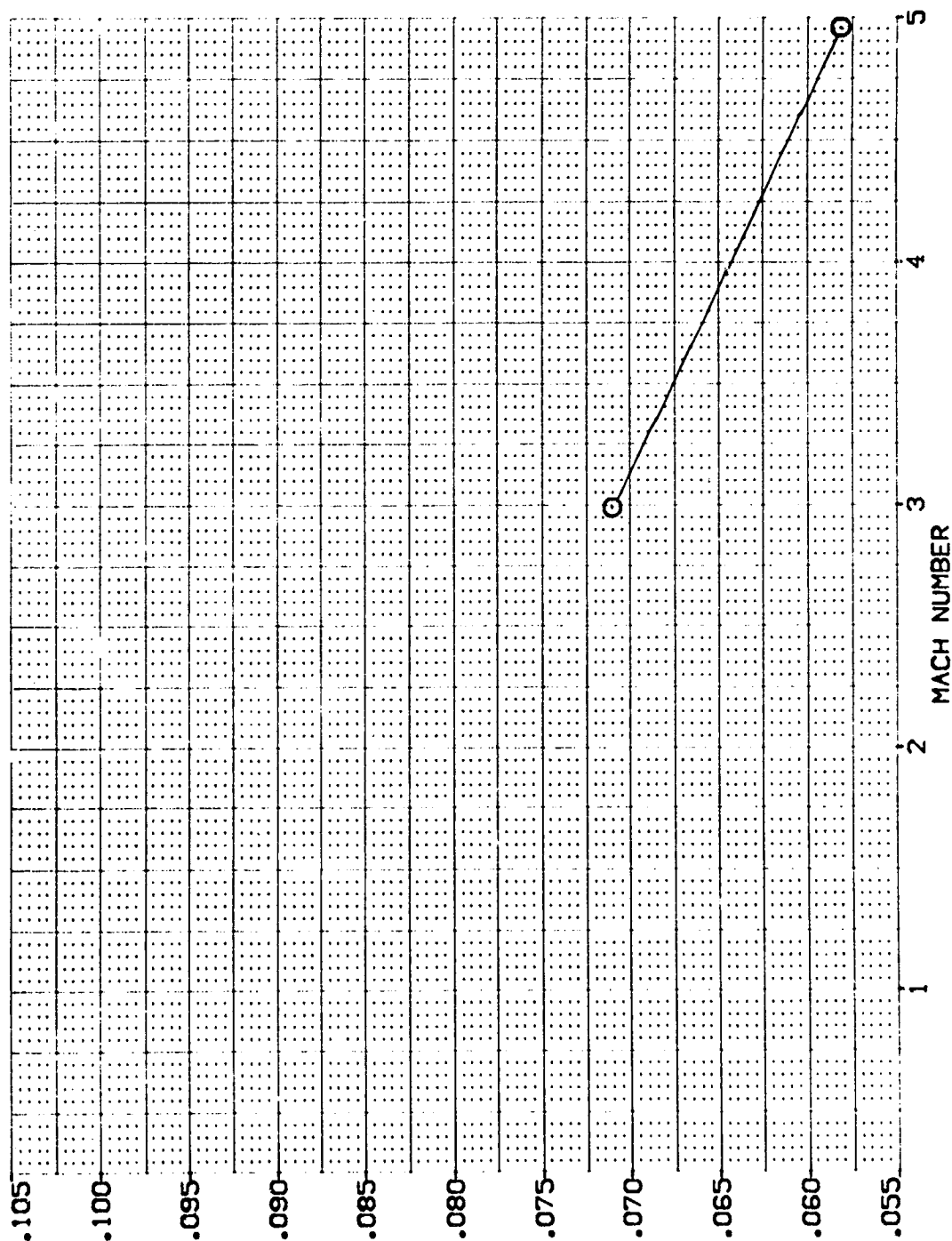
(AJALPHA = 20.00

DATA SET SYMBOL: 0
 CONFIGURATION DESCRIPTION: M57C 581(0A49) 0R8 34-0 (BOPM)(VE)(VR)

DELEVR: 13.130
 BDFLAP: -11.700
 SPOBRK: 25.550
 AILRON: -.650

REFERENCE INFORMATION:
 SREF: 2741.8000 SQ. FT.
 LREF: 481.6480 IN.
 BREF: 936.7000 IN.
 XMRP: 1081.3500 IN.
 YMRP: .0000 IN.
 ZMRP: .0000 IN.
 SCALE: .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

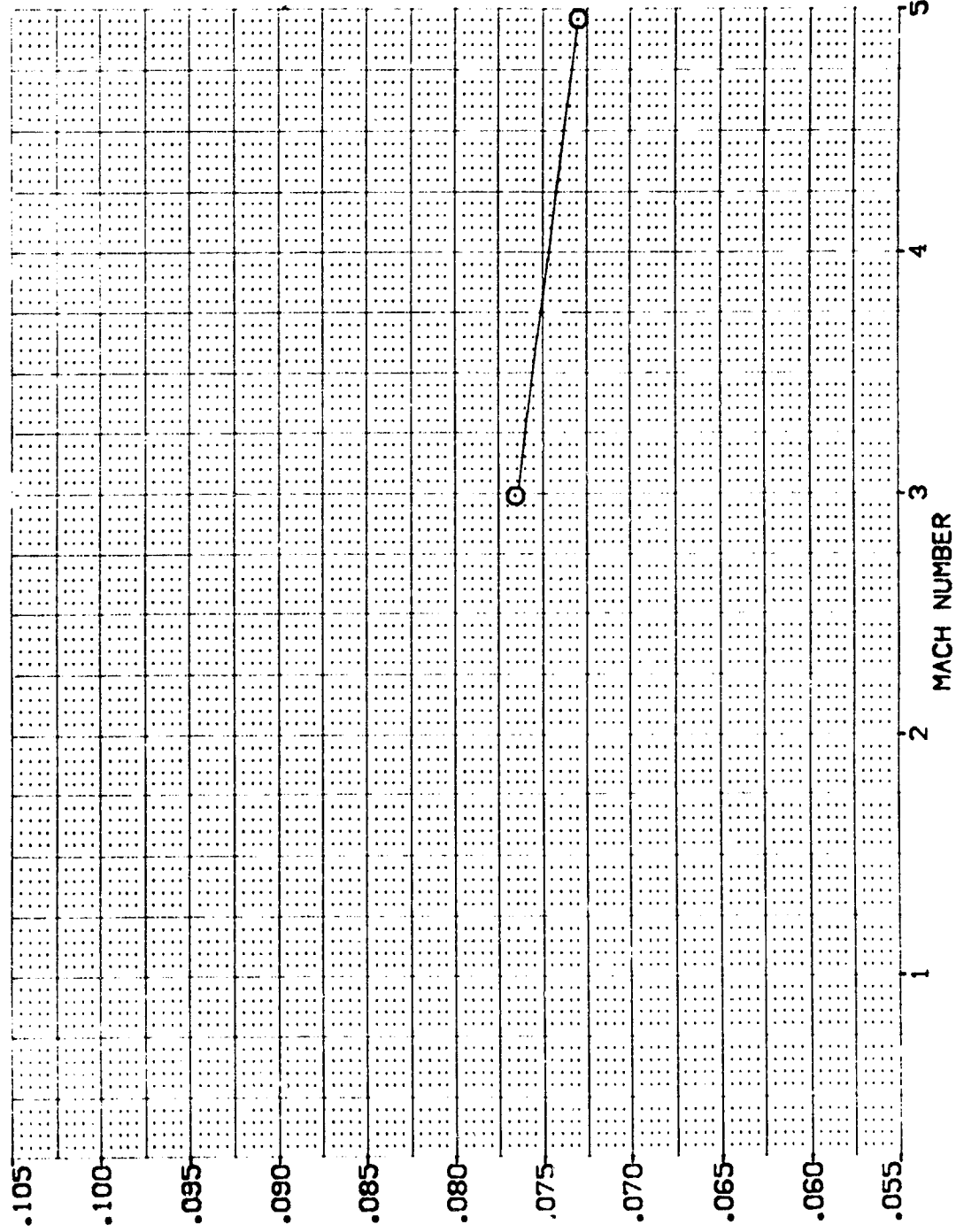
(B)ALPHA = 25.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(593107) O MSFC 581(049) CRB 34-0 (BOFM)(VE)(VR)

DELEVR 8DFLAP 970BRK AILRON
13.130 -11.700 25.550 -6.550

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

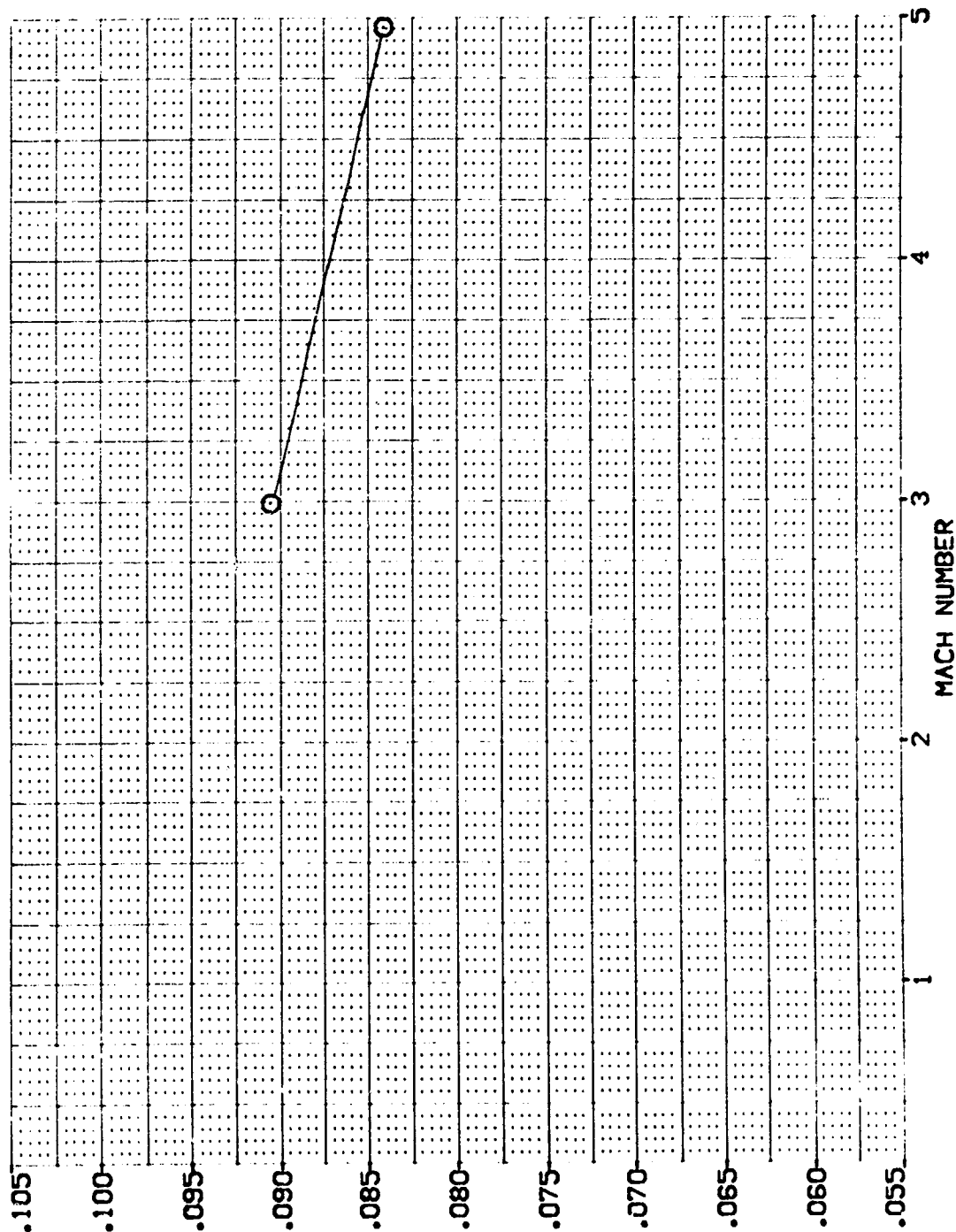
(CJALPHA = 30.00

DATA SET SYMBOL (589107) ○ MSFC 581(0449) 088 34-0 (BCFM)(VE)(VR)

DELTA BDFLAP SPDRK ALLRON
13.130 -11.700 25.550 -0.650

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XPRP 1081.3500 IN.
YPRP .0000 IN.
ZPRP .0700 IN.
SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

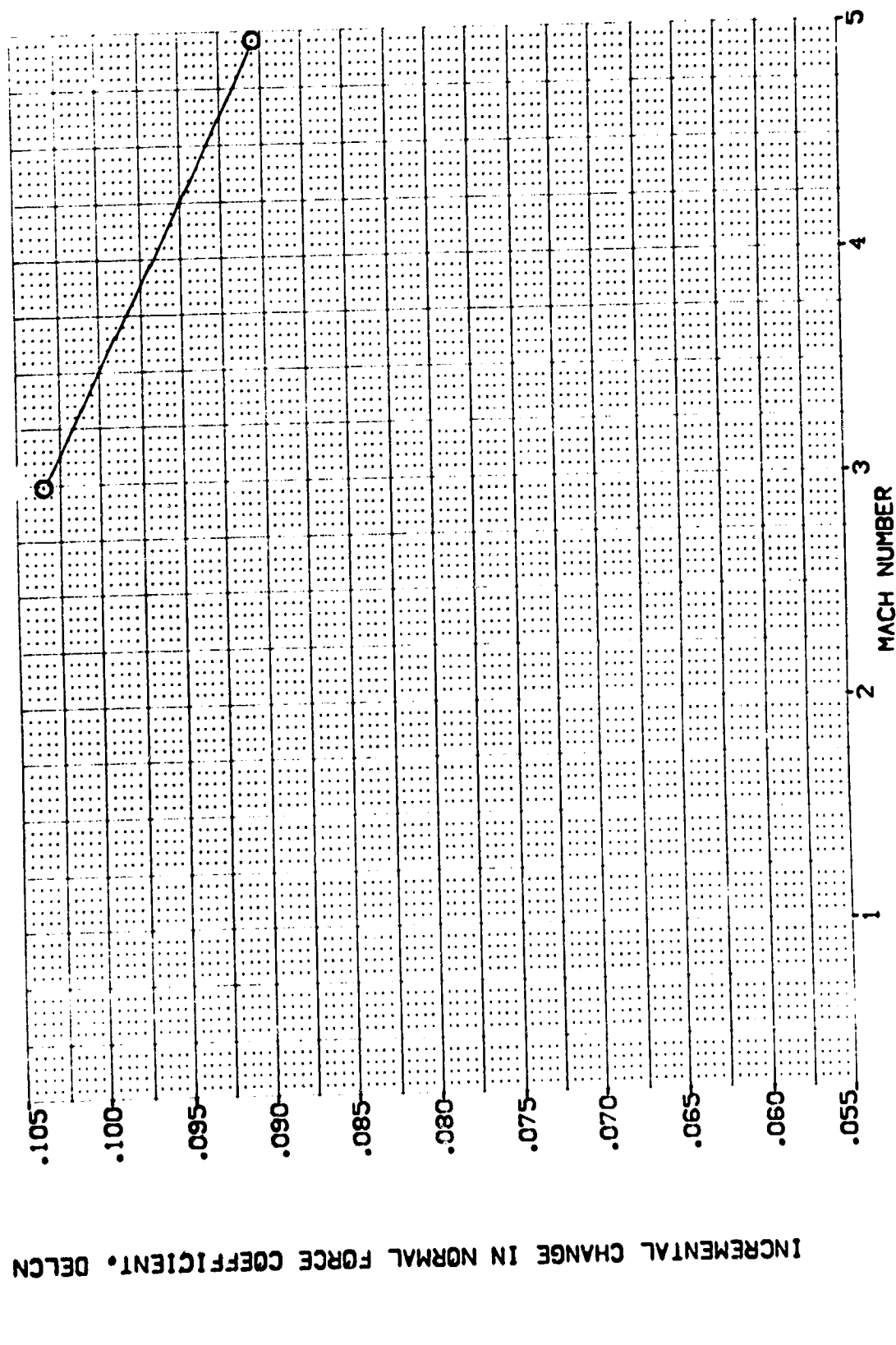
(D) ALPHA = 35.00



DATA SET SYMBOL: 0 MSFC 581(0A49) 078 34-0 (BDFM)(WE1)(VR)

DELEVR 80FLAP SPOBRK AILRON
 13.130 -11.700 25.950 -1.650

REFERENCE INFORMATION
 SREF 2741.8000 SQ: FT
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 BREF 936.7000 IN.
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 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

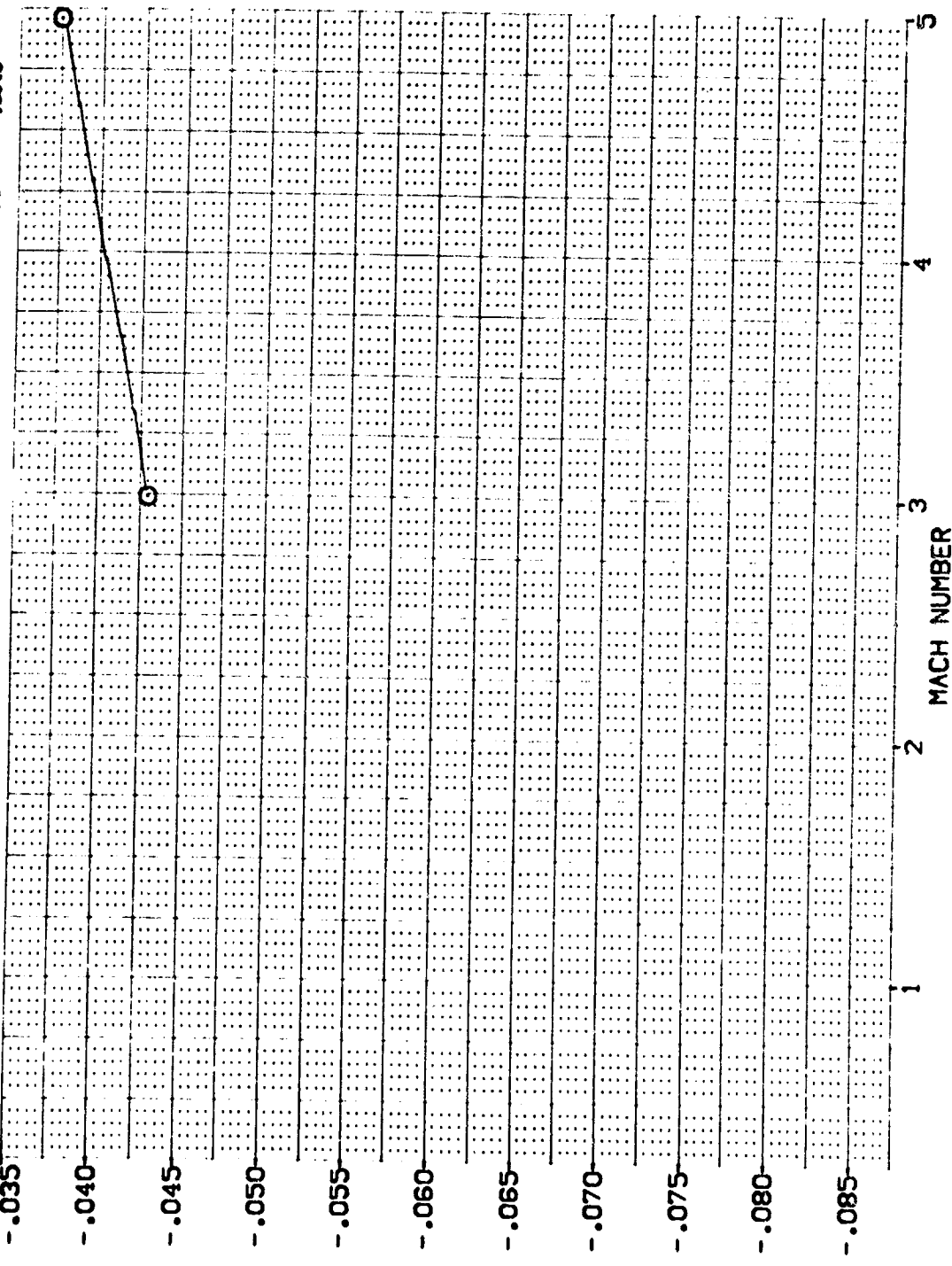


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)
 (EJALPHA = 40.00)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (923107) O HSC 531(CA49) 688 34-0 (BOFH)(VE)(VR)

DELEVR BOFLAP SPDRBK AILRON
 13.130 -11.700 25.550 -.650

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XREF 1081.3900 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0010



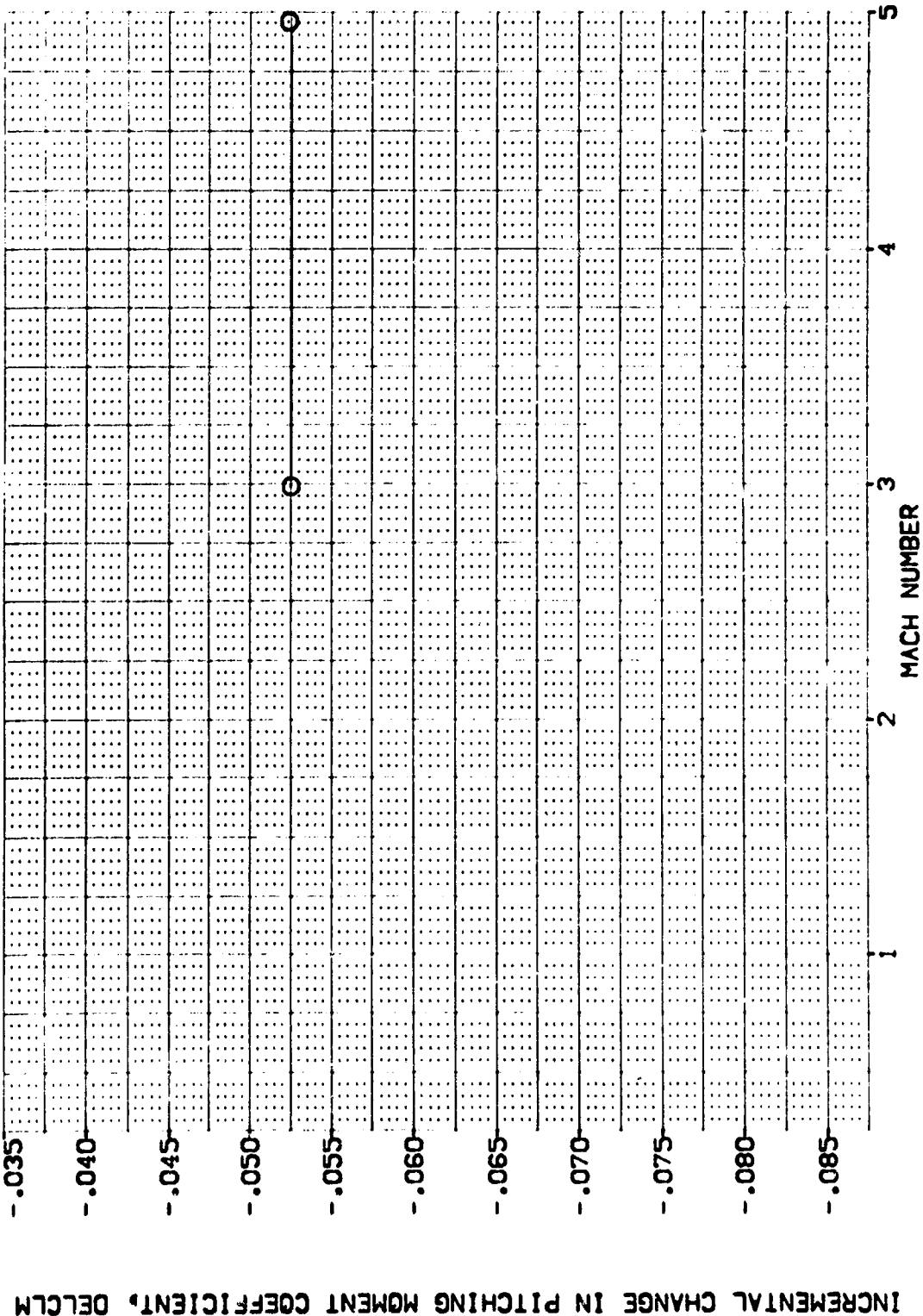
INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCM

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)
 (A) ALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(588107) O H57C 581(0449) 088 34-0 (80TH)(VE)(VR)

JELEVR 80FLAP SPDBRK AILRON
13.130 -11.700 25.550 -0.650

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XREF 1081.3500 IN.
YREF 0.0000 IN.
ZREF 0.0000 IN.
SCALE .0010



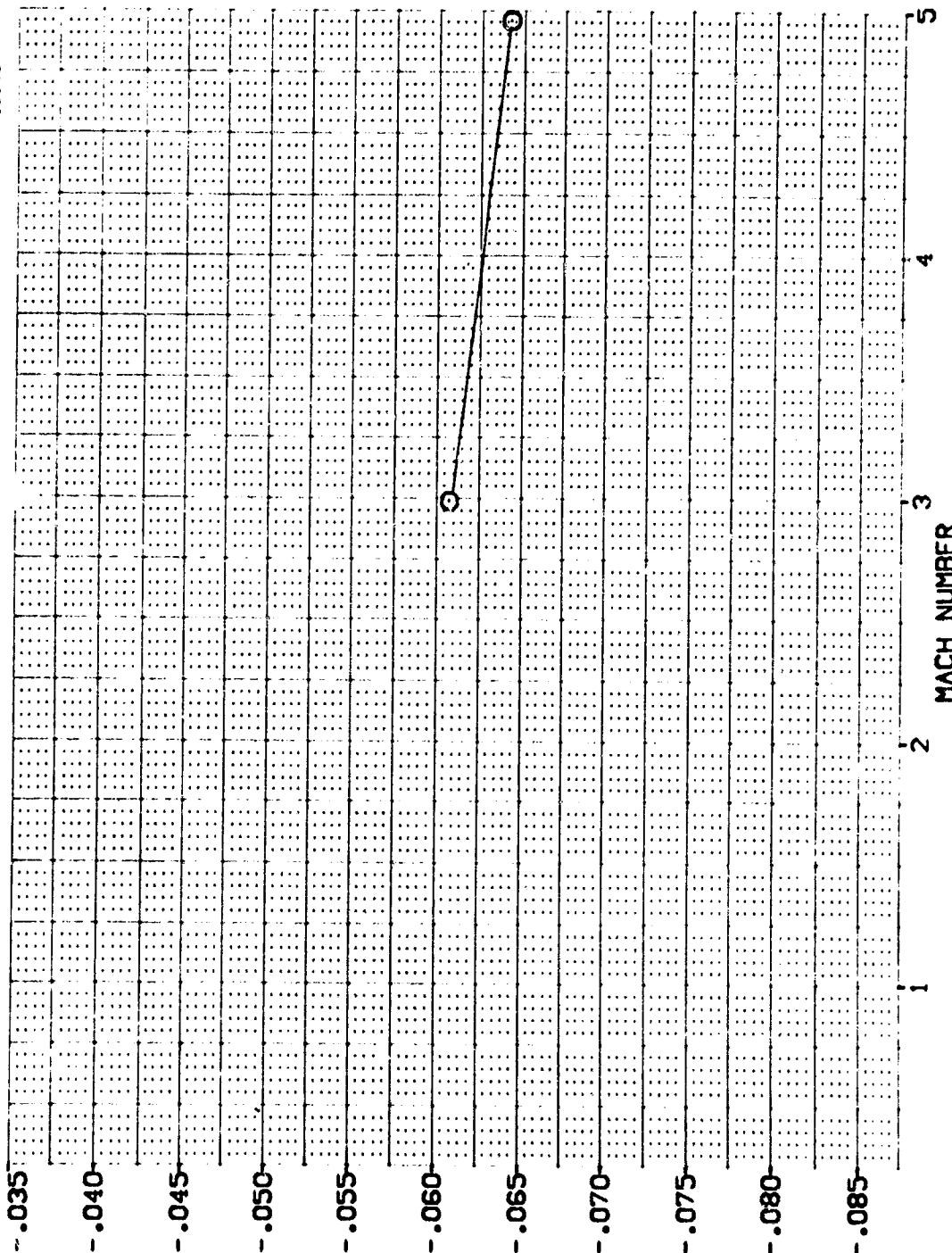
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(B)ALPHA = 25.00

DATA SET SYMBOL: 0 MSFC 581(0449) 088 34-0 (BDFM)(VE)(VR)

DELEVR BDFLAP SPOBRK AILRON
13.130 -11.700 25.580 -6.650

REFERENCE INFORMATION
SREF 2741.8000 50. FT
LREF 481.6460 IN.
BREF 536.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

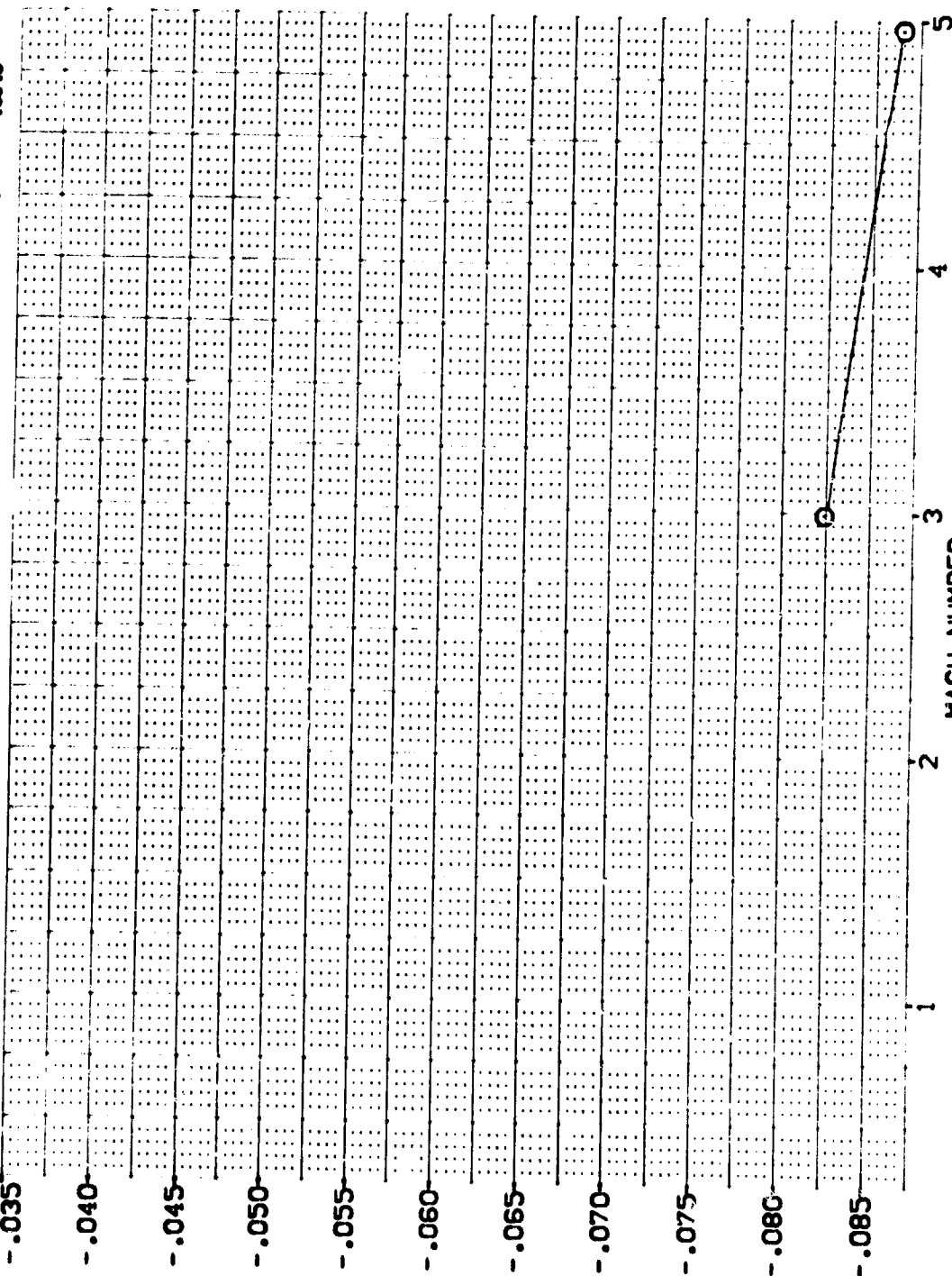
(C) ALPHA = 30.00



DATA SET SYMBL CONFIGURATION DESCRIPTION
(533107) O HFC 50(0443) ORB 34-0 (BOFH)(VE)(VR)

DELEV R BOFLAP SPOBRK ALLRON
19.130 -11.700 25.550 -.650

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XPRP 1081.3500 IN.
YPRP .0000 IN.
ZPRP .0000 IN.
SCALE .0040



INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCM

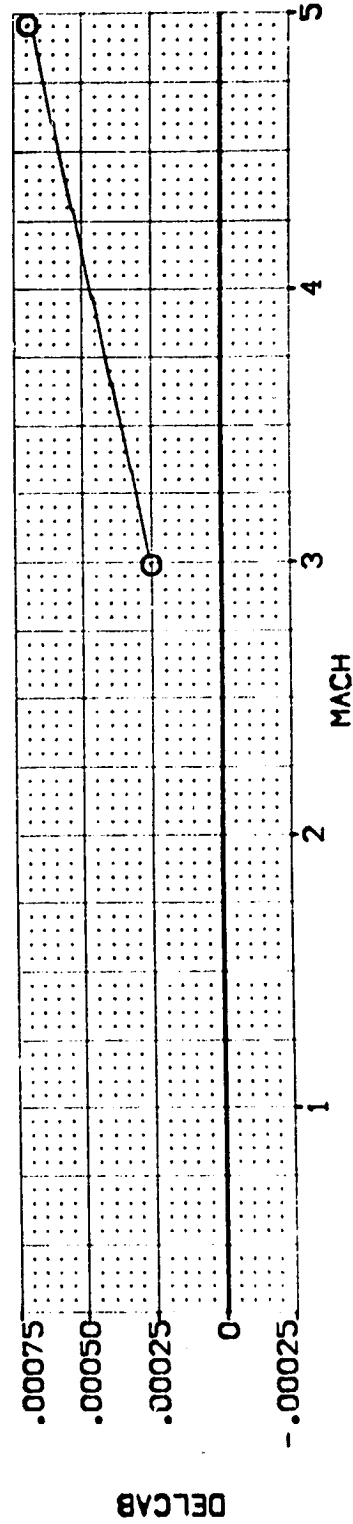
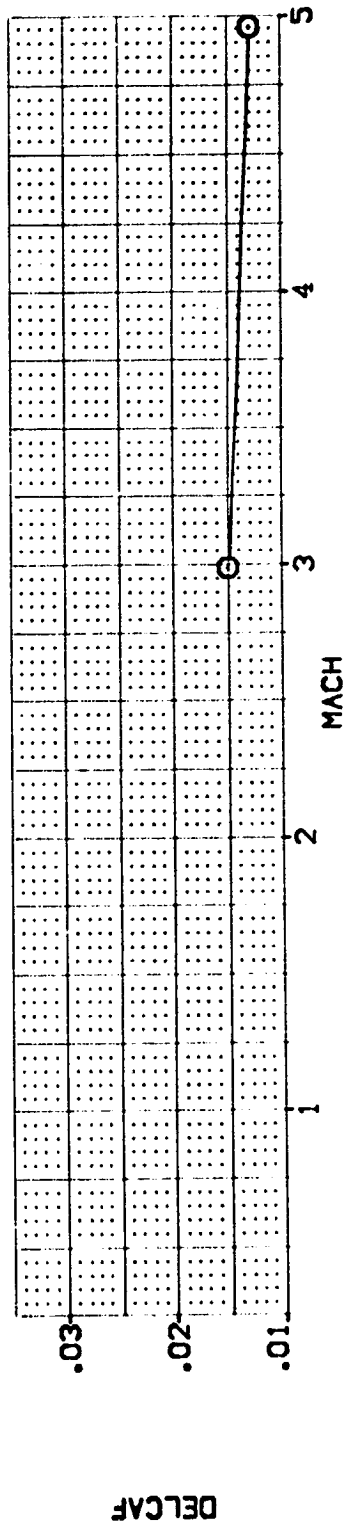
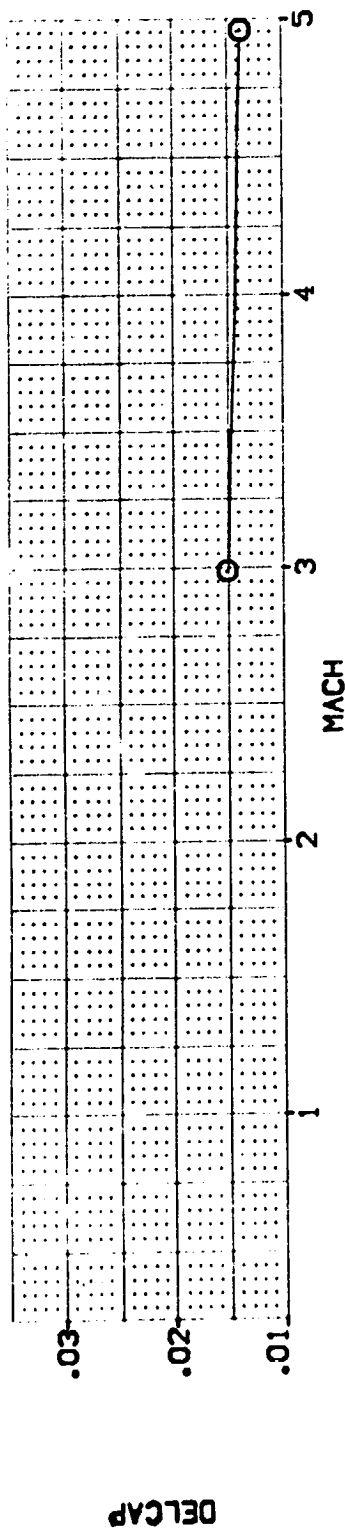
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E) ALPHA = 40.00

DATA SET SYMBOL: O CONFIGURATION DESCRIPTION: MSFC 591(0449) OFB 34-0 (BOFH)(VE)(VR)

DELEV: 13.130
BOFLAP: -11.700
SPOBRK: 25.550
AILRON: -.650

REFERENCE INFORMATION:
SREF: 2741.8000 IN: 52. FT
LREF: 481.6480 IN:
BREF: 936.7000 IN:
XMRP: 1081.3500 IN:
YMRP: .0000 IN:
ZMRP: .0000 IN:
SCALE: .0040



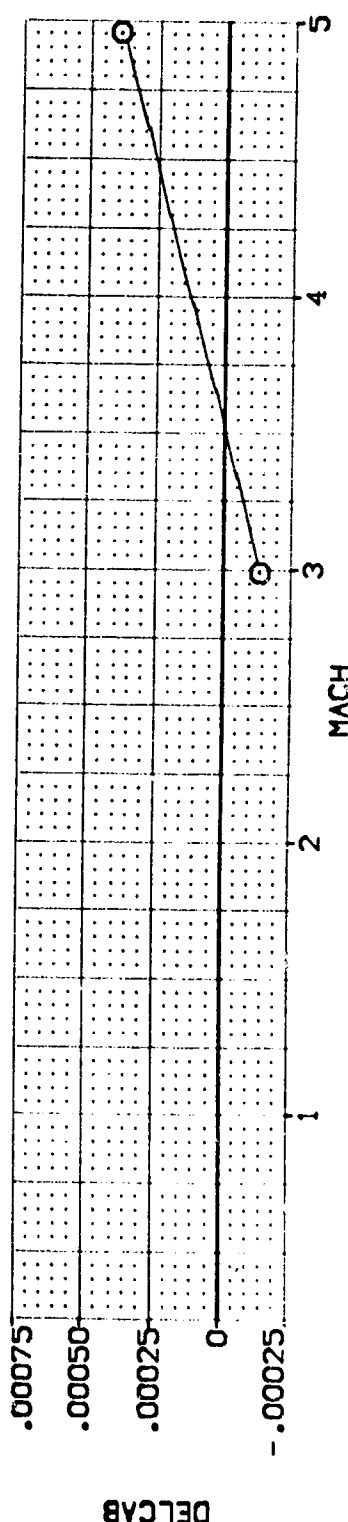
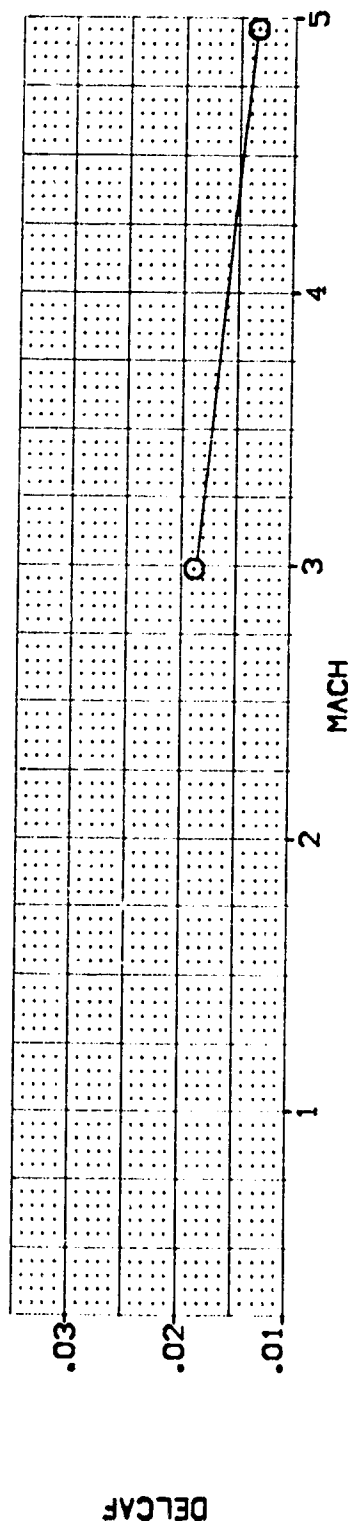
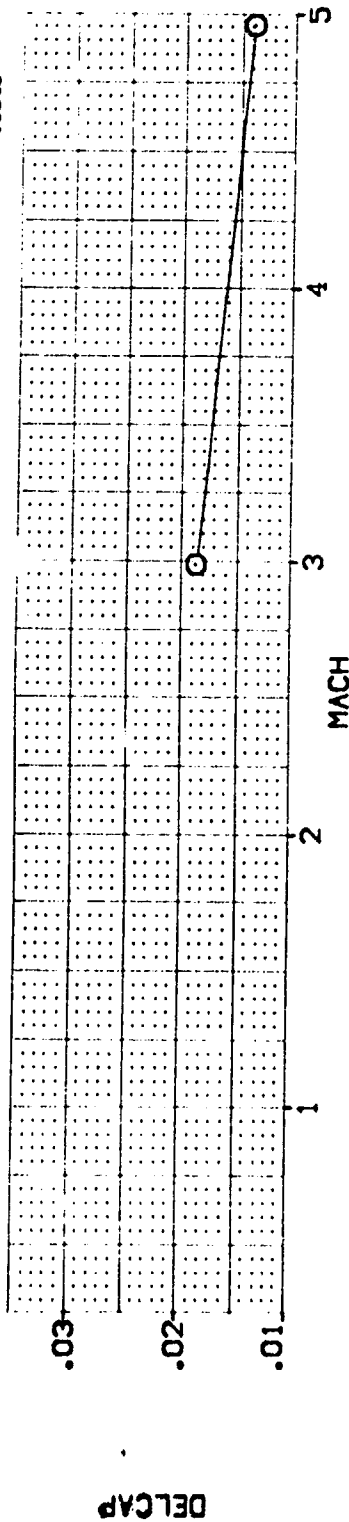
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(ALPHA = 20.00)

DATA SET SYMBOL: 0
 CONFIGURATION DESCRIPTION: MSC 561(0A49) OFB 34-0 (BOFM)(WE)(VR)

DELEV: 13.130
 BDFLAP: -11.700
 SPOBRK: 25.550
 AILRON: -.650

REFERENCE INFORMATION
 SREF: 2741.8000 SQ. FT
 LREF: 481.6480 IN.
 BREF: 936.7000 IN.
 XPRP: 1081.3500 IN.
 YPRP: .0000 IN.
 ZPRP: .0000 IN.
 SCALE: .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

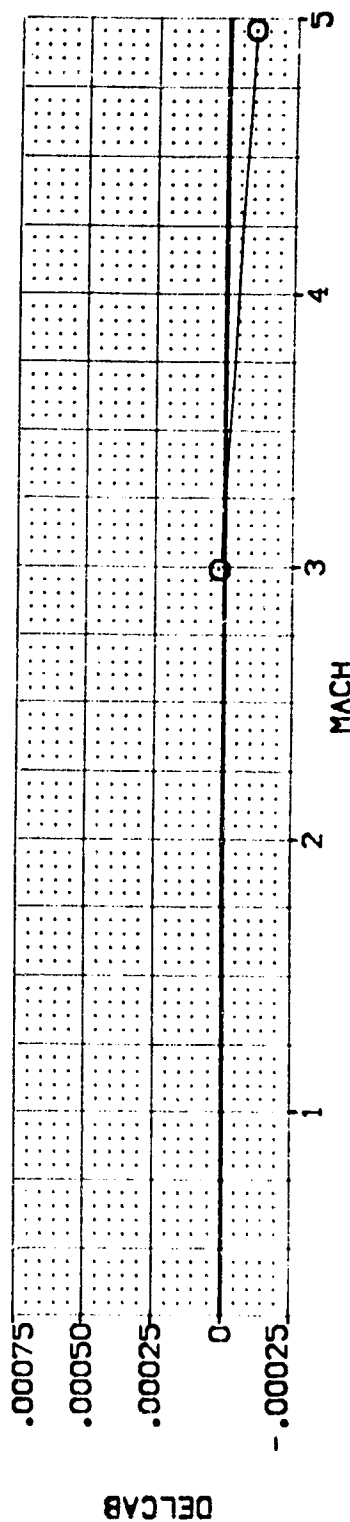
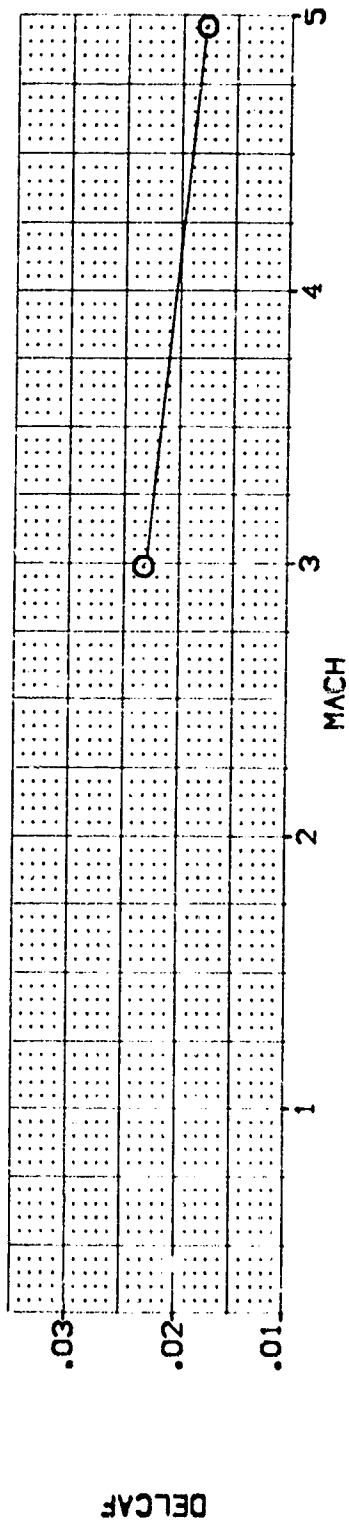
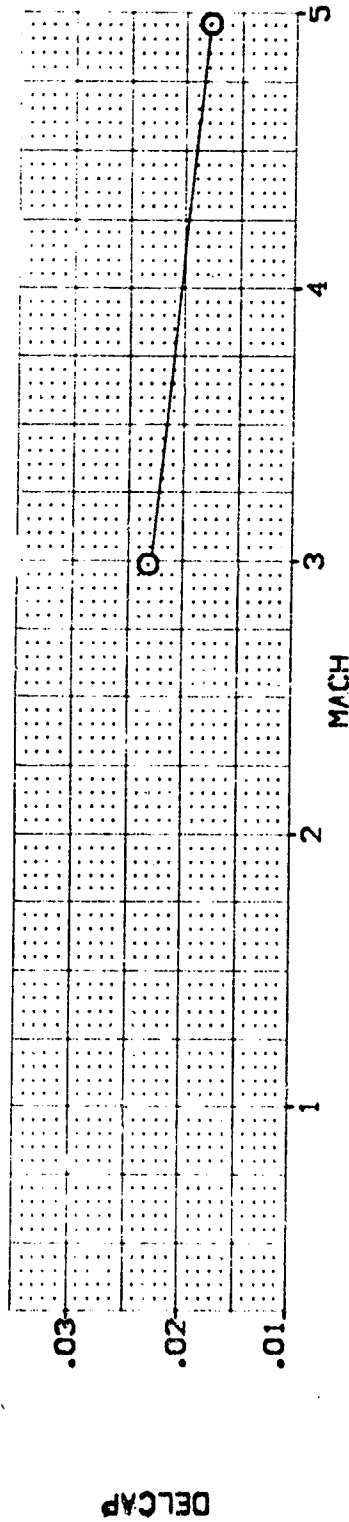
(CB)ALPHA = 25.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (588107) ○ HSC 581(0419) OFB 34-0 (BDTH)(VE)(VR)

DELEVR 80FLAP SPDRBK AILRON
 13.130 -11.700 25.550 -0.650

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



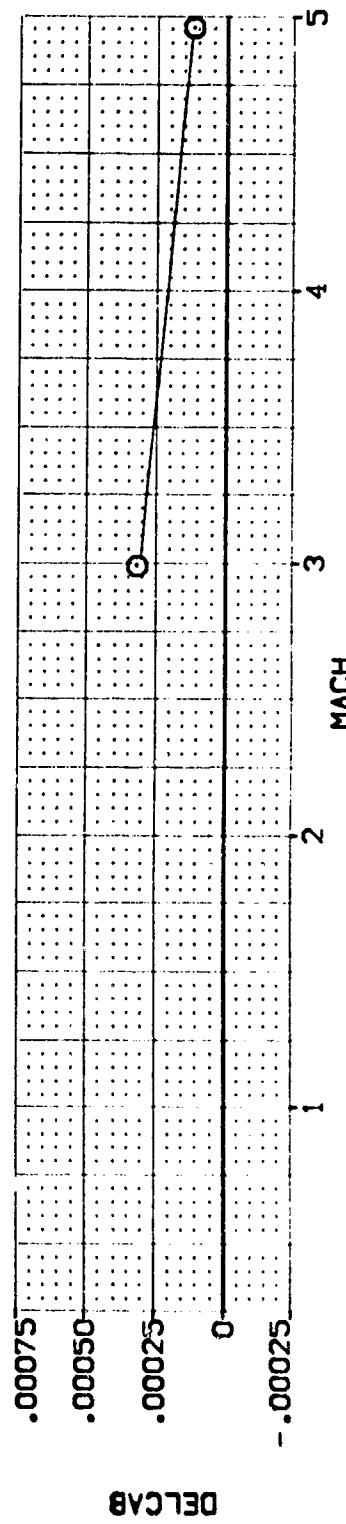
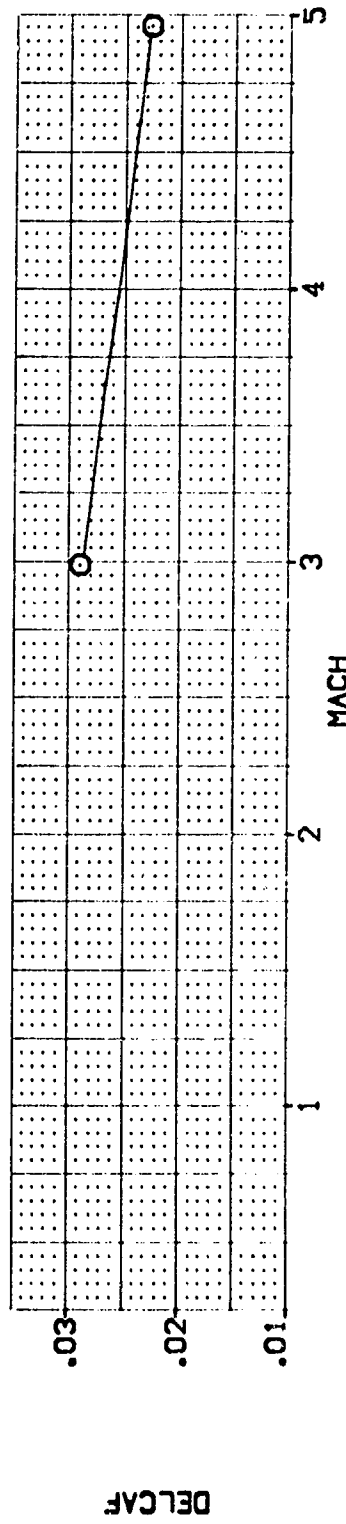
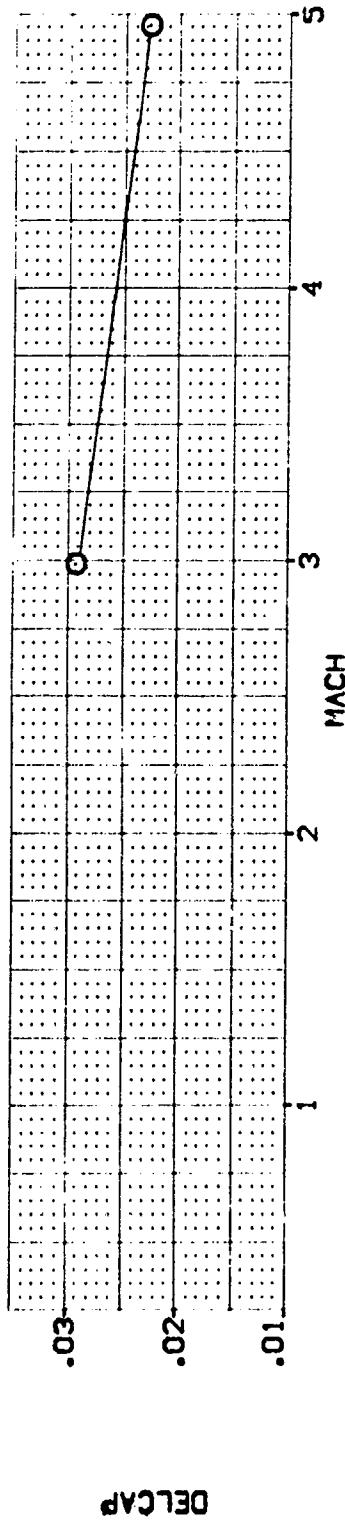
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(C) ALPHA = 30.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(593107) O MSFC 581(0449) DB 34-0 (BOFH)(VE)(VR)

DELEVR BOFLAP SPDBRK AILRON
13.130 -11.700 25.550 -650

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



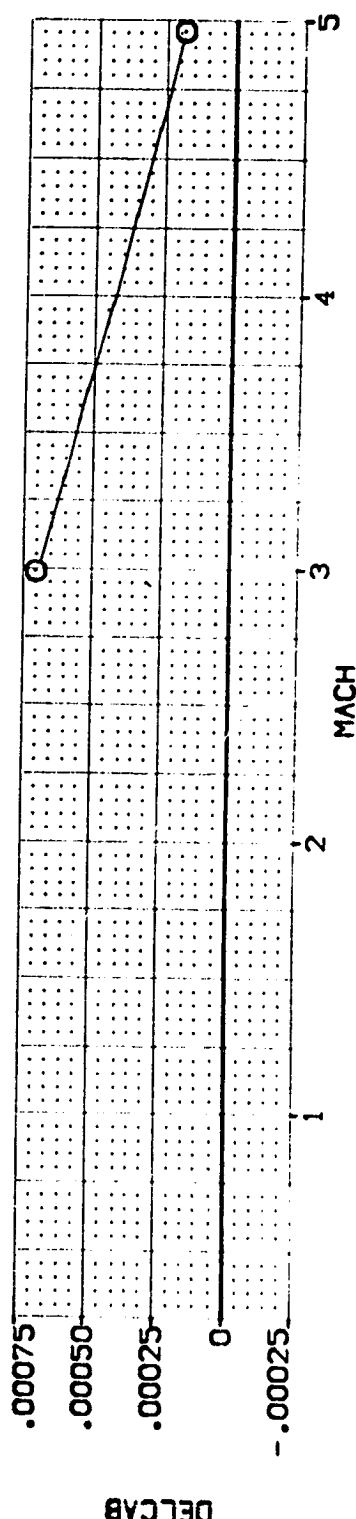
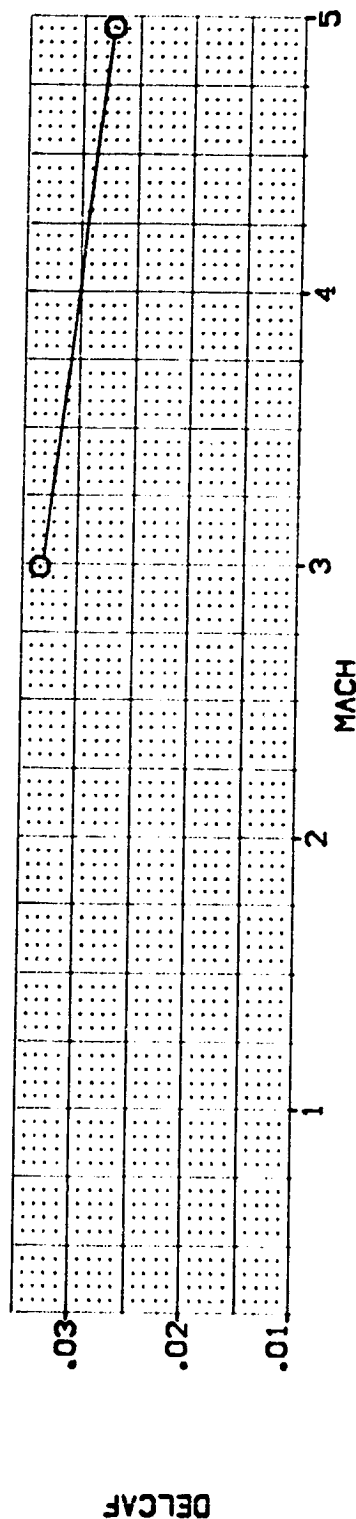
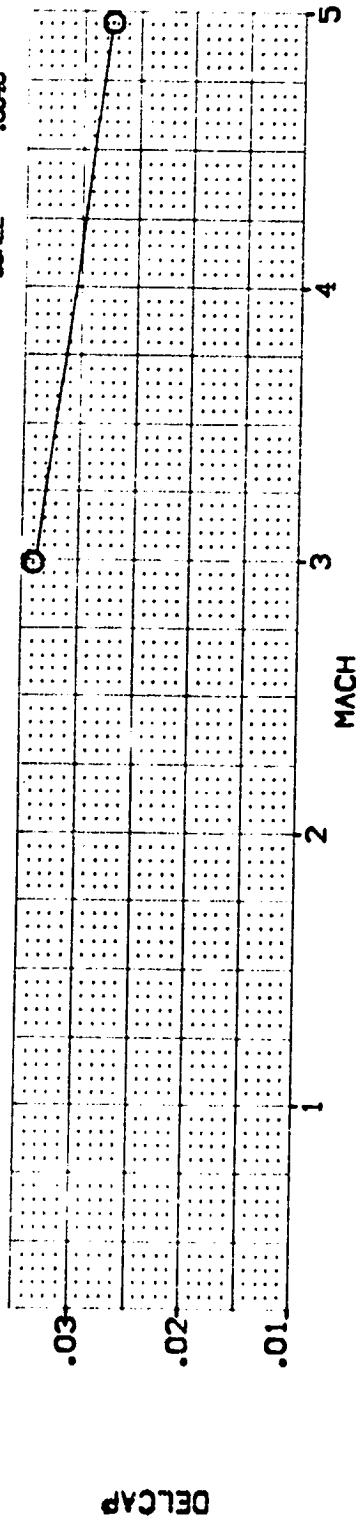
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(D) ALPHA = 35.00

DATA SET SYMBOL: 0
 CONFIGURATION DESCRIPTION: MSFC 581(0449) ORB 34-0 (BOFH)(WE)(VR)

DELEV: 13.130
 BOFLAP: -11.700
 SPDRK: 25.550
 AILRON: -.650

REFERENCE INFORMATION
 SREF: 2741.8000 SQ. FT
 LREF: 481.6480 IN.
 BREF: 936.7000 IN.
 XMRP: 1081.3500 IN.
 YMRP: .0000 IN.
 ZMRP: .0000 IN.
 SCALE: .0040

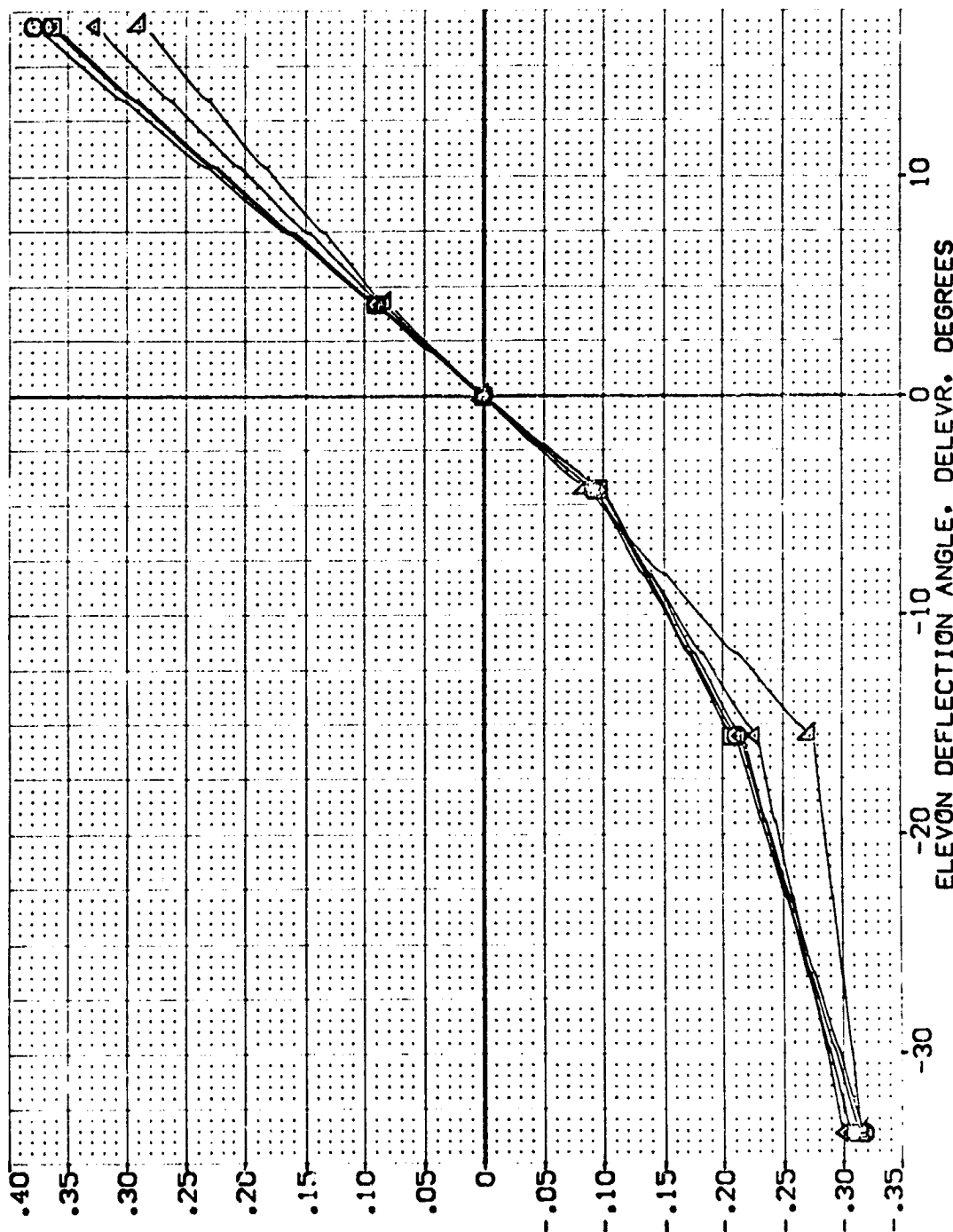


ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

(E) ALPHA = 40.00

SYMBOL
 ○ □ ◇ △

PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
ALPHA	MACH	BD FLAP	AILRON	RUDER	DELEVR	DATASET	DELEVR	SREF	SQ. FT
.000	.600	.000	.000	.000	-11.700	592001	-15.550	LREF	481.6480
5.000	SPDRK	25.550	.000	.000	-33.650	592002	.000	BREF	936.7000
10.000	BETA	.000	.000	.000	-4.310	592003	16.750	YREF	1081.3900
15.000	CONF16	1.000	.000	.000	4.160	592004		ZREF	.0000
20.000						592005		ZREF	.0040
								SCALE	

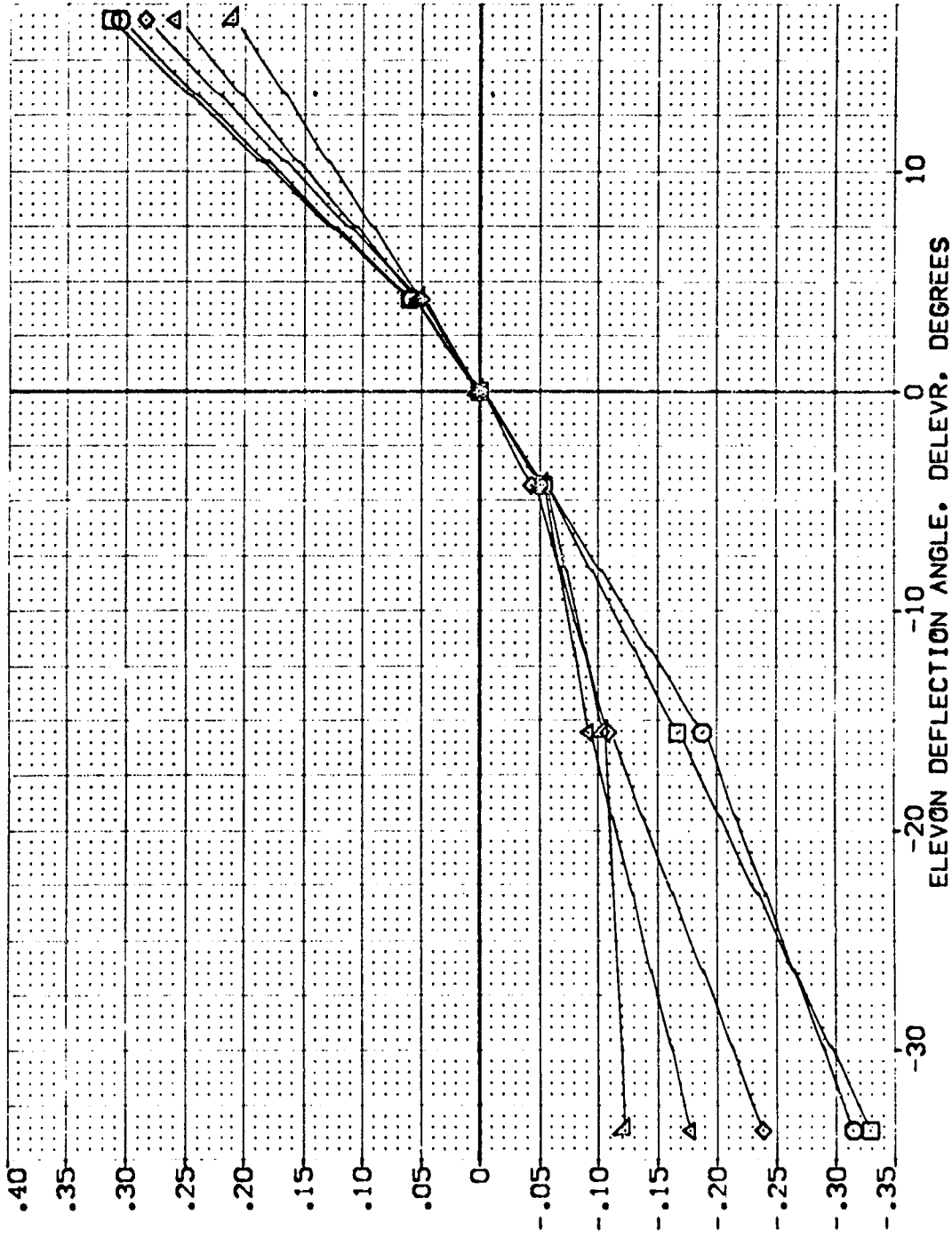


INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELEVR	SREF	REFERENCE INFORMATION
○	.000		.900	BOFLAP	-11.700	DELEVR	2741.8000	SO. FT
□	5.000	SPCRK	25.550	AIRLON	-.320	DELEVR	481.6180	IN.
◇	10.000	BETA	.000	RUDER	.000	DELEVR	936.7000	IN.
△	15.000	CONF18	1.000		592001	DELEVR	1081.3500	IN.
	20.000				592003	DELEVR	.0000	IN.
					592004	DELEVR	.0000	IN.
					592005	DELEVR	.0040	IN.

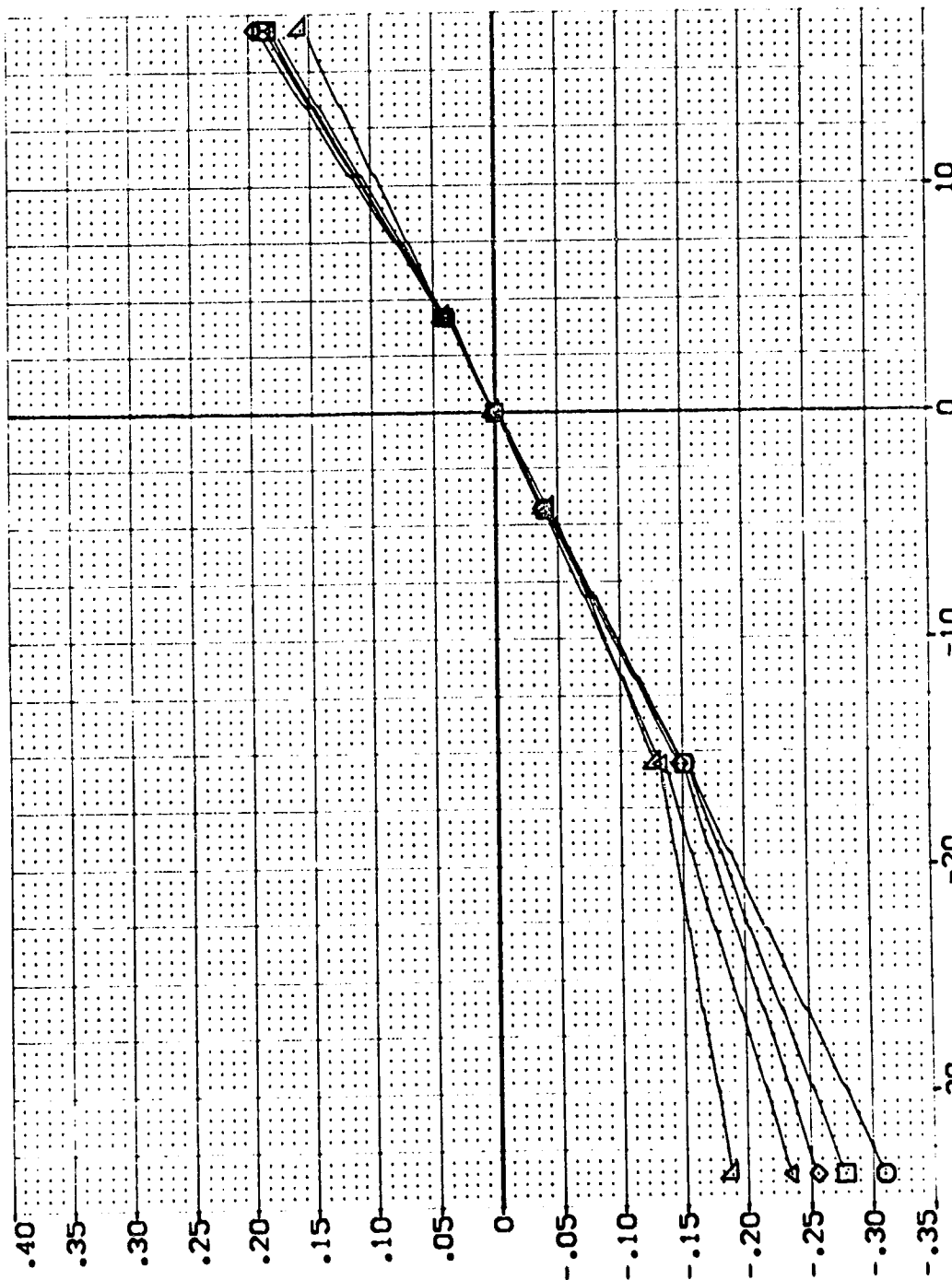


SYMBOL
 ○ □ ◇ △ ▽

PARAMETRIC VALUES
 ALPHA .000
 MACH 1.200
 SPOBRK 25.550
 BETA .000
 CDF16 1.000

DATA SOURCE
 BOFLAP -11.700
 DATASET 592001
 DELEVR -30.550
 592002
 592004
 592005

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XMRP 1081.3900
 YMRP .0000
 ZMRP .0000
 SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA CL

ELEVON DEFLECTION ANGLE, DELEVR, DEGREES

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL
 ○ □ ◇ △

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

MACH
 1.450
 25.550
 .000
 1.000

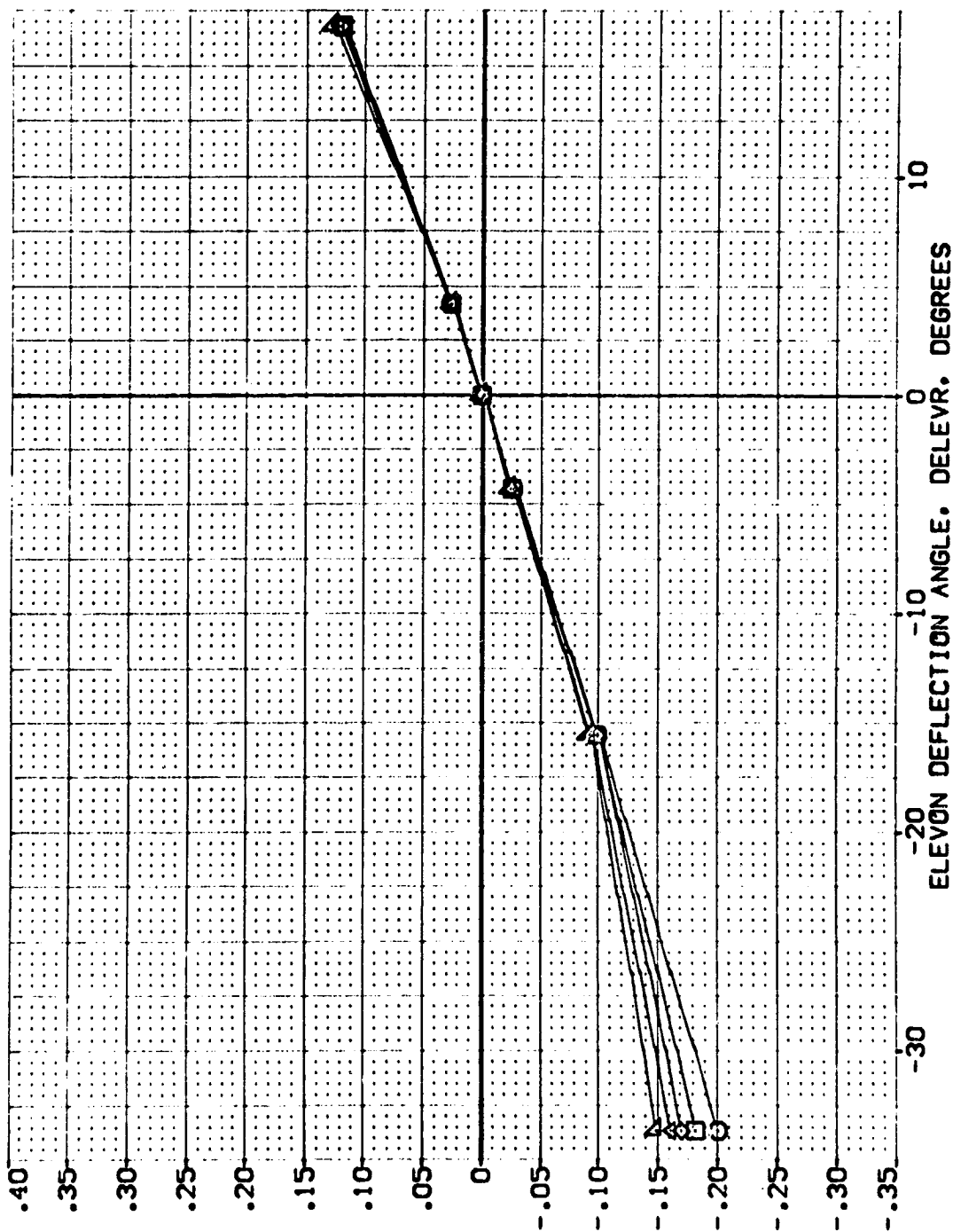
PARAMETRIC VALUES
 BOFLAP
 AILRON
 RUDDER
 1.450
 25.550
 .000
 1.000

DATA SOURCE
 DELEVR
 -11.700
 -33.650
 -4.310
 4.160

DATASET
 592001
 592002
 592003
 592004

DELEVR
 -15.550
 .000
 16.750
 16.750
 .0000
 .0040

REFERENCE INFORMATION
 SREF
 LREF
 BREF
 XMRP
 YMRP
 ZMRP
 SCALE
 2741.8000
 491.6480
 936.7000
 1081.3900
 .0000
 .0000
 .0040

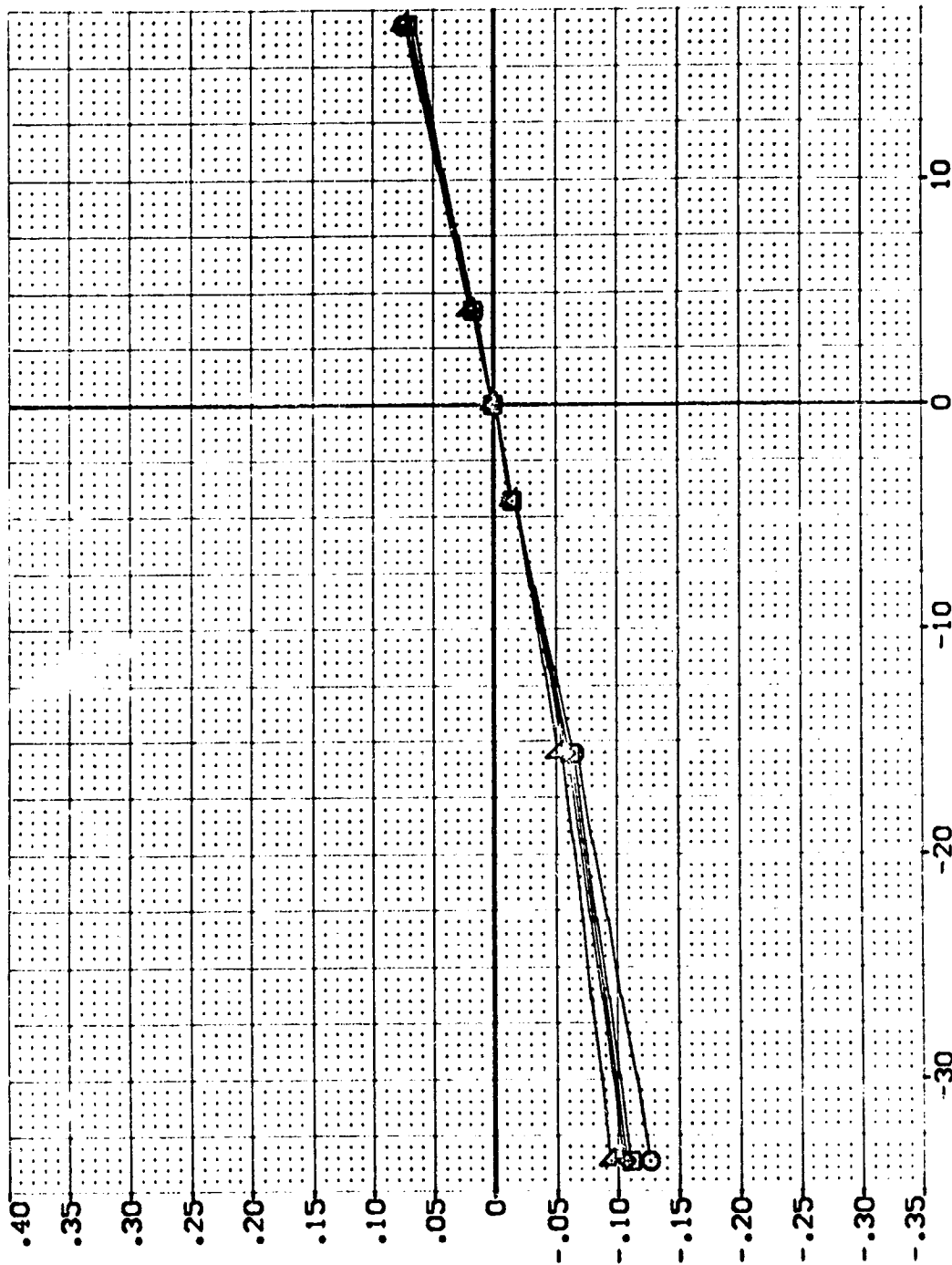


INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DELEVR	DELEVR	REFERENCE INFORMATION	SO. FT
○	.000	1.950	BOFLAP	-11.700	592001	-33.650	-15.950	SREF	2741.8000
□	5.000	25.550	AIRLON	-320	592002	-4.310	.000	LREF	481.6480
◇	10.000	.000	RUDER	.000	592003	4.160	.000	BREF	536.7000
△	15.000	1.000			592004		16.750	XREF	1081.3500
▽	20.000				592005			YREF	.0000
								ZREF	.0000
								SCALE	.0040

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL
☐ ☐ ☐ ☐ ☐ ☐

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 2.950
 SPOILER 25.550
 BETA .000
 CONF10 1.000

BOFLAP
 AILRON
 RUDDER

-11.700
 -.320
 .000

DATASET
 592001
 592003
 592004

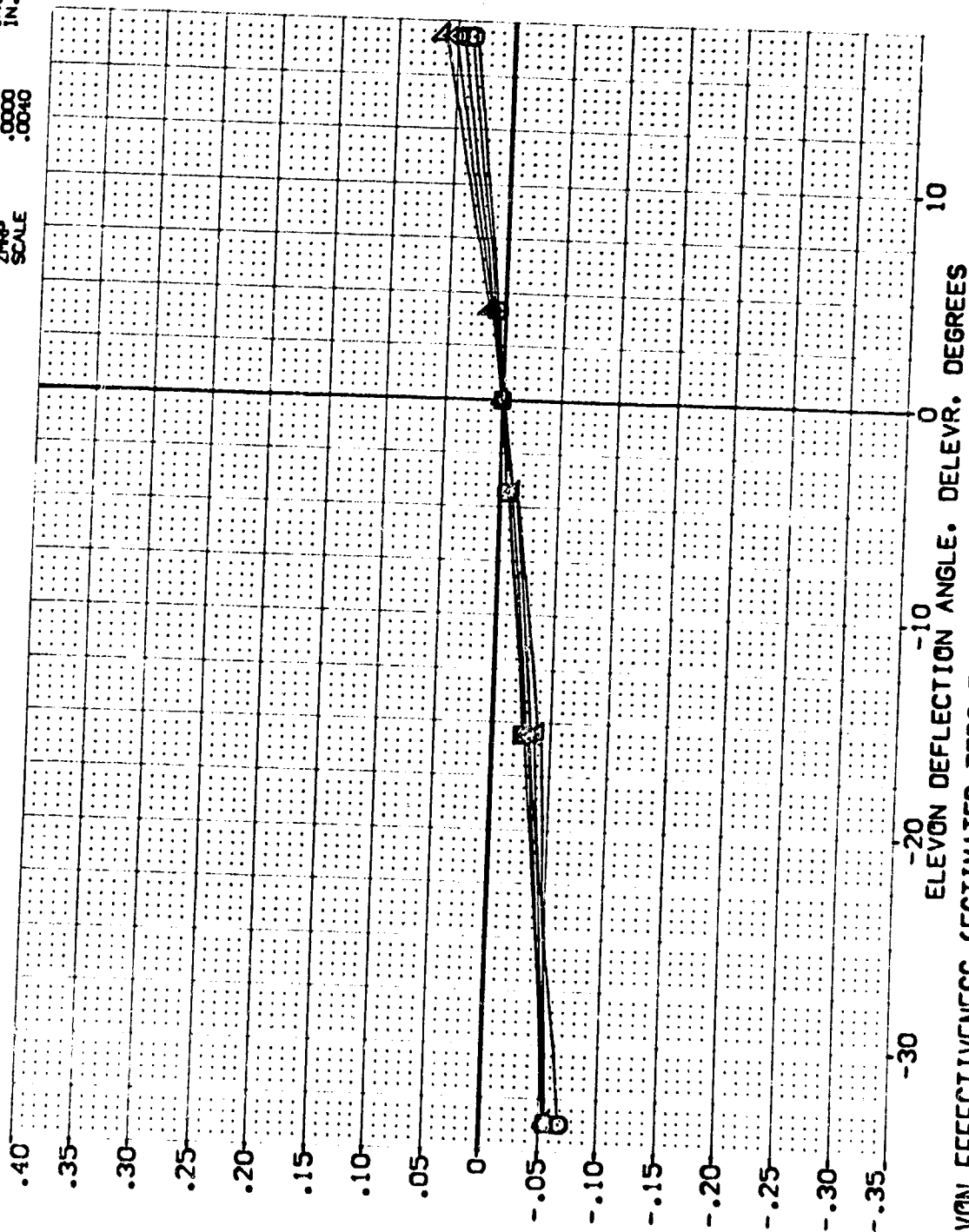
DATA SOURCE
 DELEVR
 -30.650
 -4.310
 4.160

DATASET
 592002
 592004
 592005

DELEVR
 -15.350
 .000
 16.790

REFERENCE INFORMATION
 SREF 2741.8000
 LINEF 491.6480
 BREF 936.7000
 XTRP 1081.3500
 YTRP .0000
 ZTRP .0000
 SCALE .0040

SO. FT
 IN.
 IN.
 IN.
 IN.



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(OA49) ORB 34-0 (BCFM) (WE)(VR) (592001)

1000

ALPHA
.0000
5.0000
10.0000
15.0000
20.0000

CONFIDENTIAL
BETA
SPURK
MACH

PARAMETER
900
25.550
000
1.000

	VALUES
BDFLAP	
AIRLON	
RUDER	

11.700
- .320
.000

TABLE 1

TA SOURCE
EVR
.650
.310
.160

DATASET
192002
192004
192005

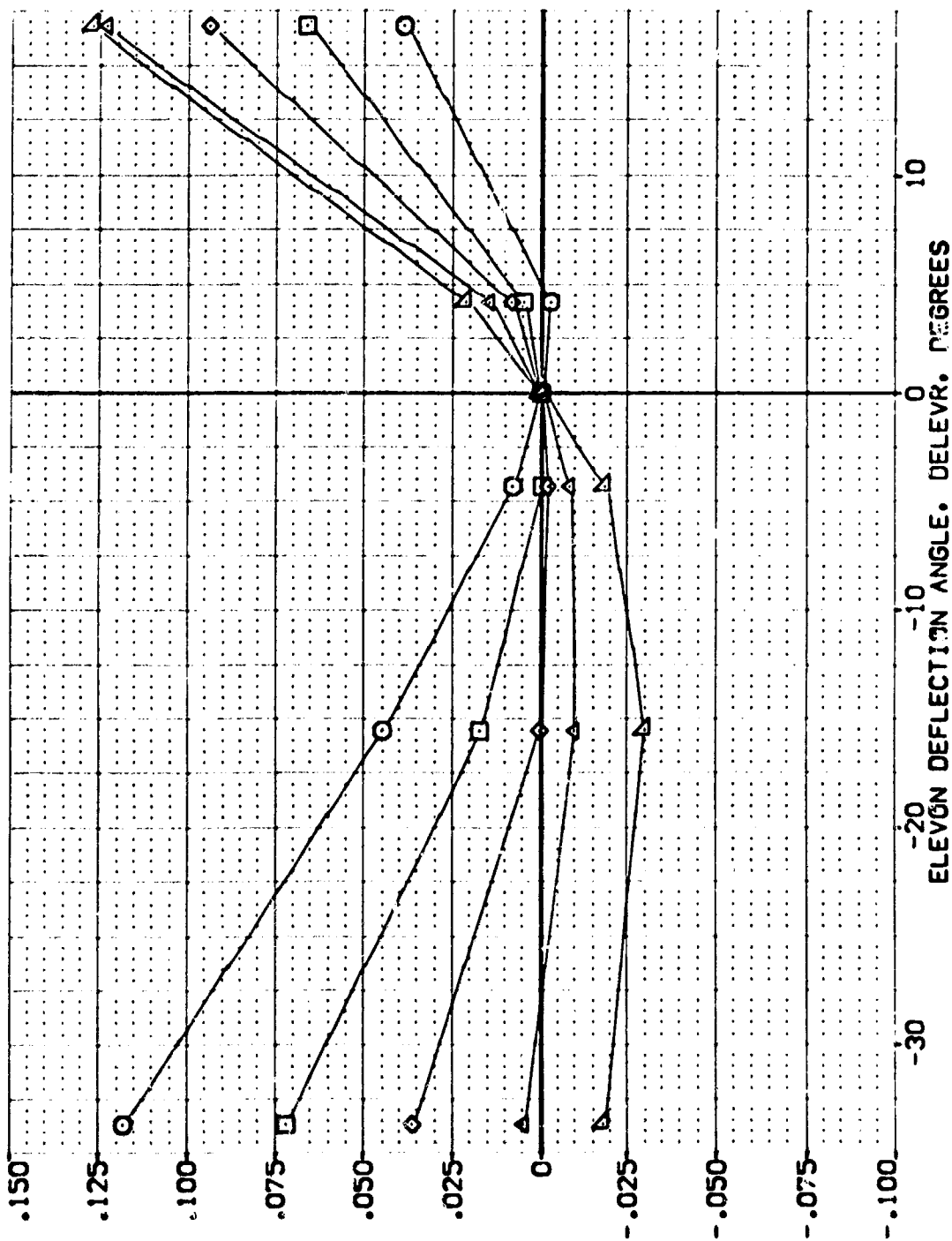
15.950
16.000
16.750

REF ID: A66666

000
086
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11
92222222

10



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR)

(592001)

SYMBOL
 7
 4
 3
 2
 1

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

MACH
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 1.200
 25.550
 .000
 1.000

BD FLAP
 AILRON
 RUDDER

-11.700
 -.320
 .000
 .000

DATASET
 592001
 592003
 592004

DATA SOURCE
 DELEVR
 -33.650
 -4.310
 4.160

DATASET
 592002
 592004
 592005

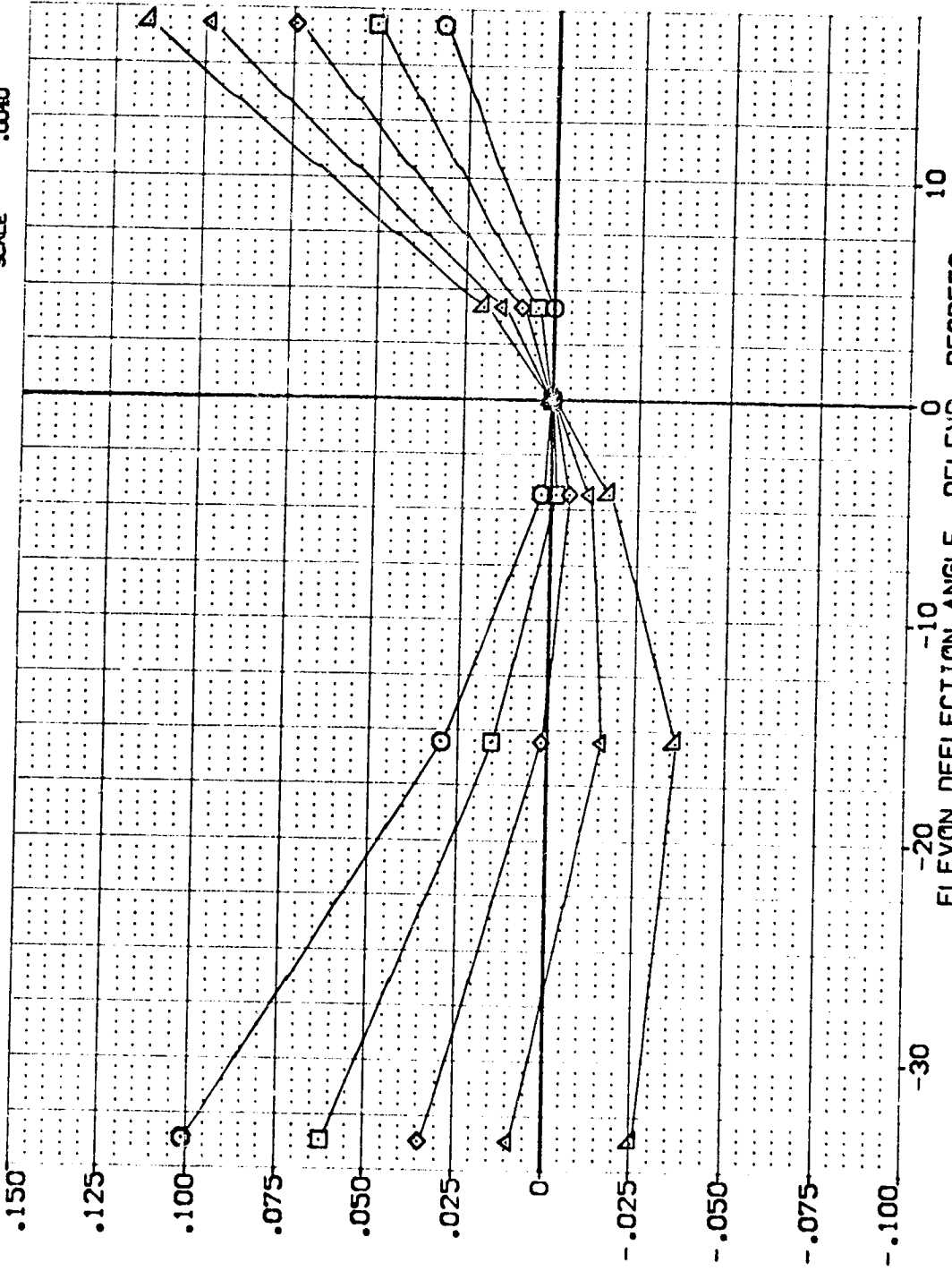
DELEVR
 -15.550
 .000
 16.730

SREF
 LREF
 BREF
 XPRP
 YPRP
 ZPRP
 SCALE

2741.8000
 481.6480
 936.7000
 1081.3900
 .0000
 .0000
 .0040

REFERENCE INFORMATION
 SQ. FT
 IN.
 IN.
 IN.
 IN.
 IN.
 IN.

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (8CFM) (WE)(VR) (592001)

SYMBOL
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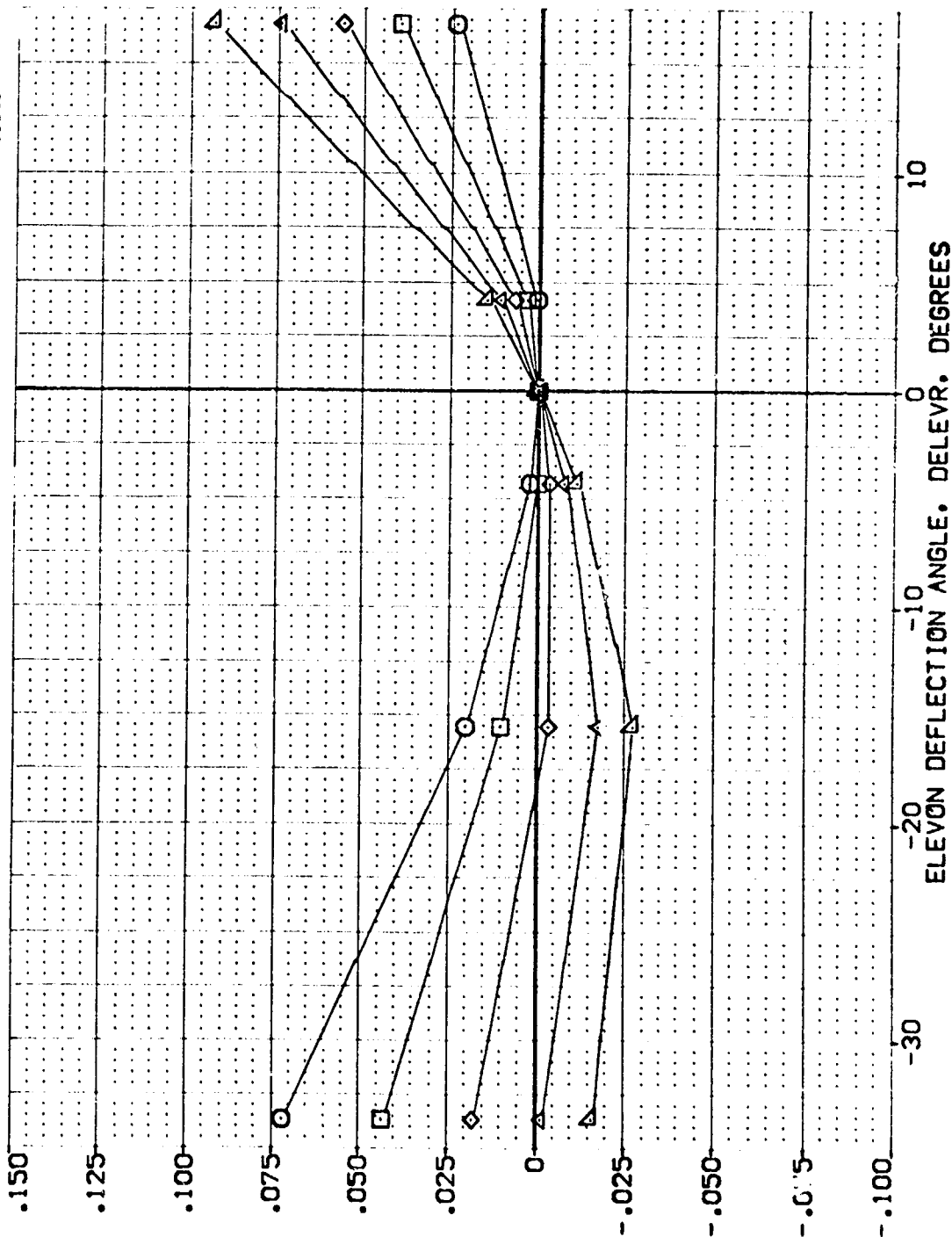
ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 1.450
 SPDRK 23.550
 BETA .000
 CNF16 1.000

DATA SOURCE
 DELEVR -33.650
 -4.310
 4.160

DATASET
 -11.700
 592001
 592002
 592003
 592004
 592005

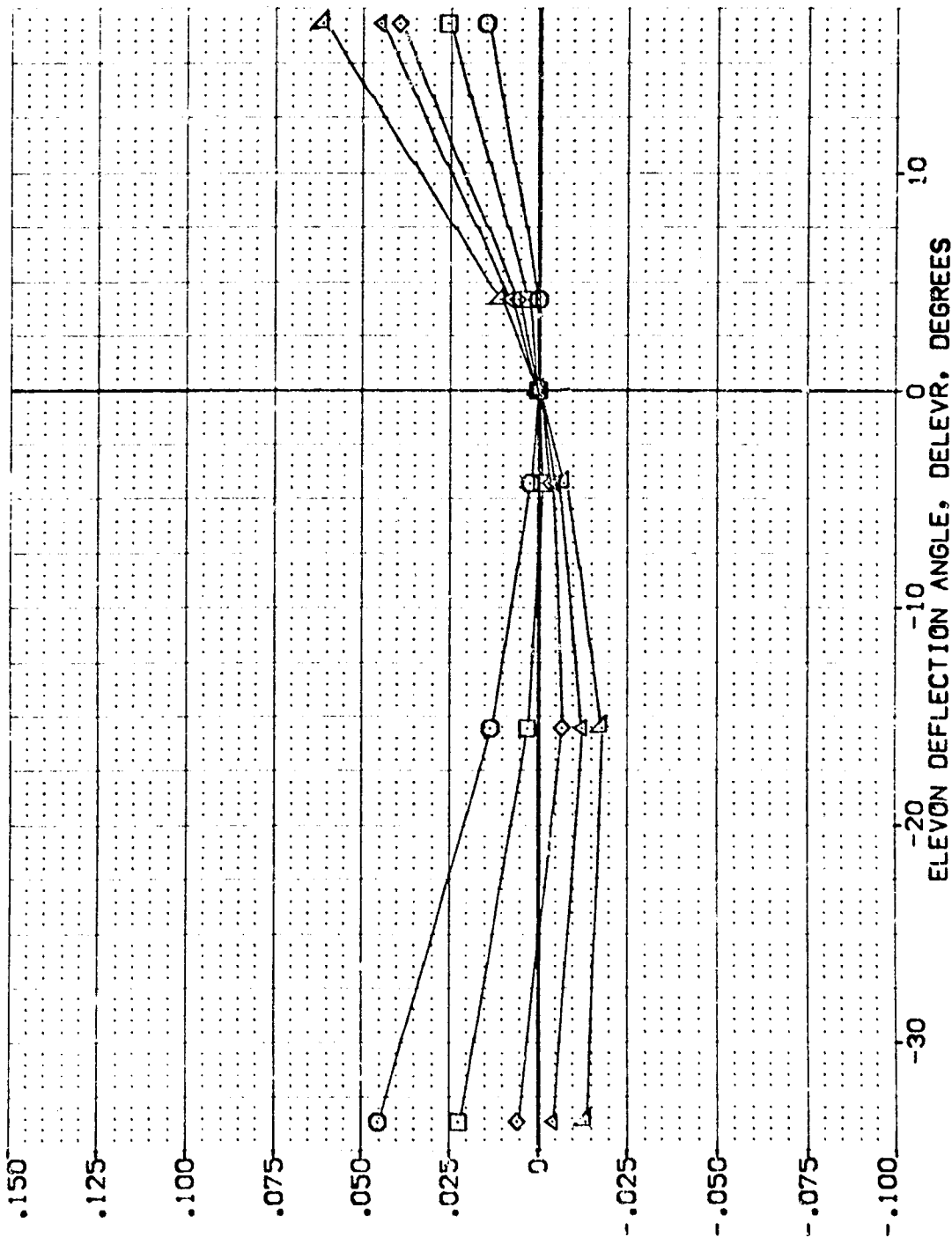
REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 PREF 936.7000 IN.
 XPRP 1081.3900 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

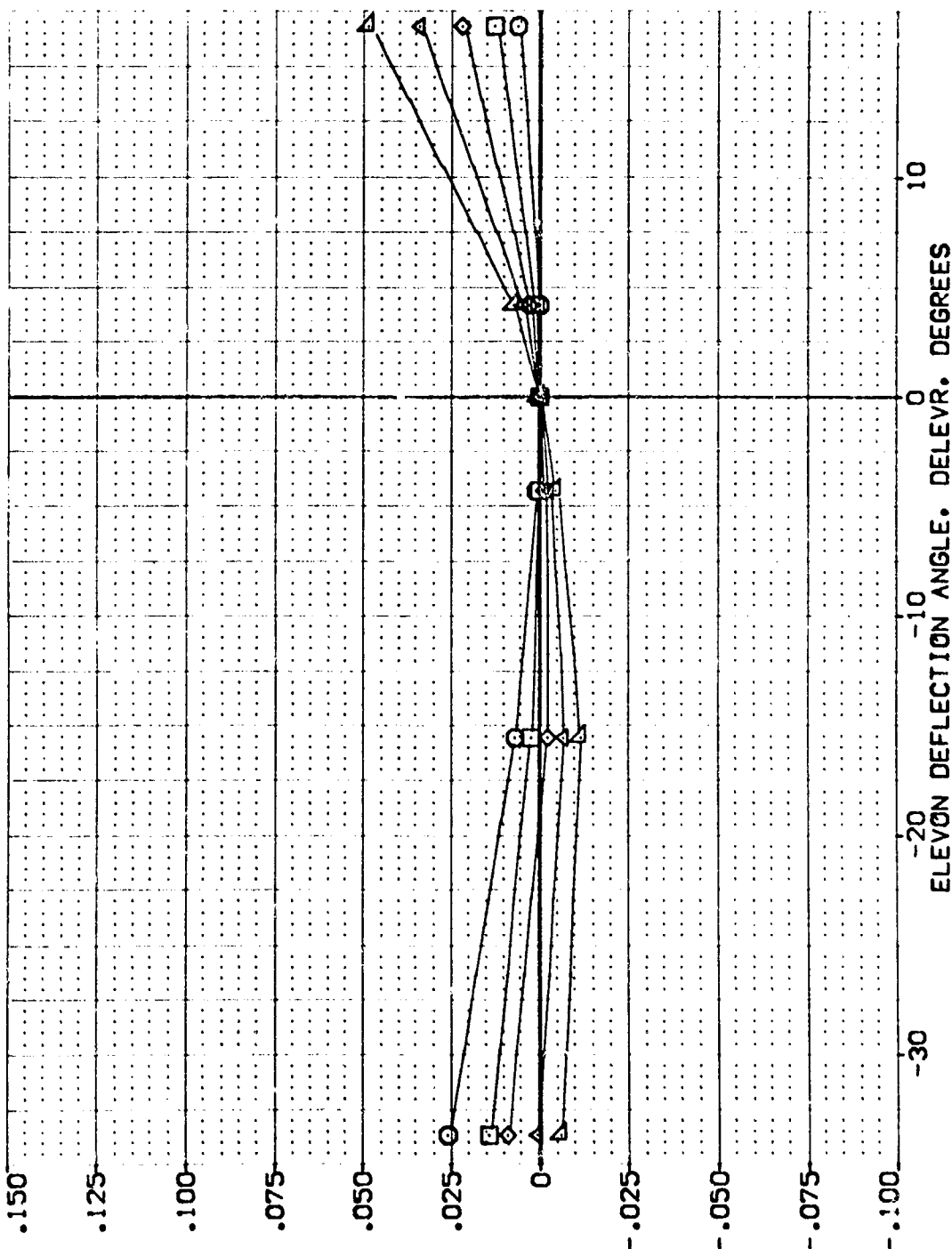
SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DELEVR	DELEVR	REFERENCE INFORMATION
○	.000	1.950	BLFLAP	DELEVR	592002	-15.550	592002	SREF 2741.8000 SQ. FT
□	5.000	25.550	AIRLON	DELEVR	592001	-30.650	592001	LREF 481.6480 IN.
◇	10.000	.000	RUDER	DELEVR	592003	-4.310	592003	BREF 926.7000 IN.
△	15.000	1.000		DELEVR	592004	4.160	592004	XREF 1081.3500 IN.
	20.000			DELEVR	592005	16.750	592005	YREF .0000 IN.
								ZREF .0000 IN.
								SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DELEVR	DATA SET	DELEVR	REFERENCE INFORMATION
○	.000		2.550	BOFLAP	-11.700	592001	-39.650	2741.8000 SQ. FT
□	5.000	SPOBRK	25.550	AILRON	-.320	592001	-39.650	481.6480 IN.
◇	10.000	BETA	.000	RUDER	.000	592003	-4.310	926.7000 IN.
△	15.000	CONF16	1.000		4.160	592004	16.750	1081.3500 IN.
	20.000					592005		.0000 IN.
								.0000 IN.
								.0040 IN.



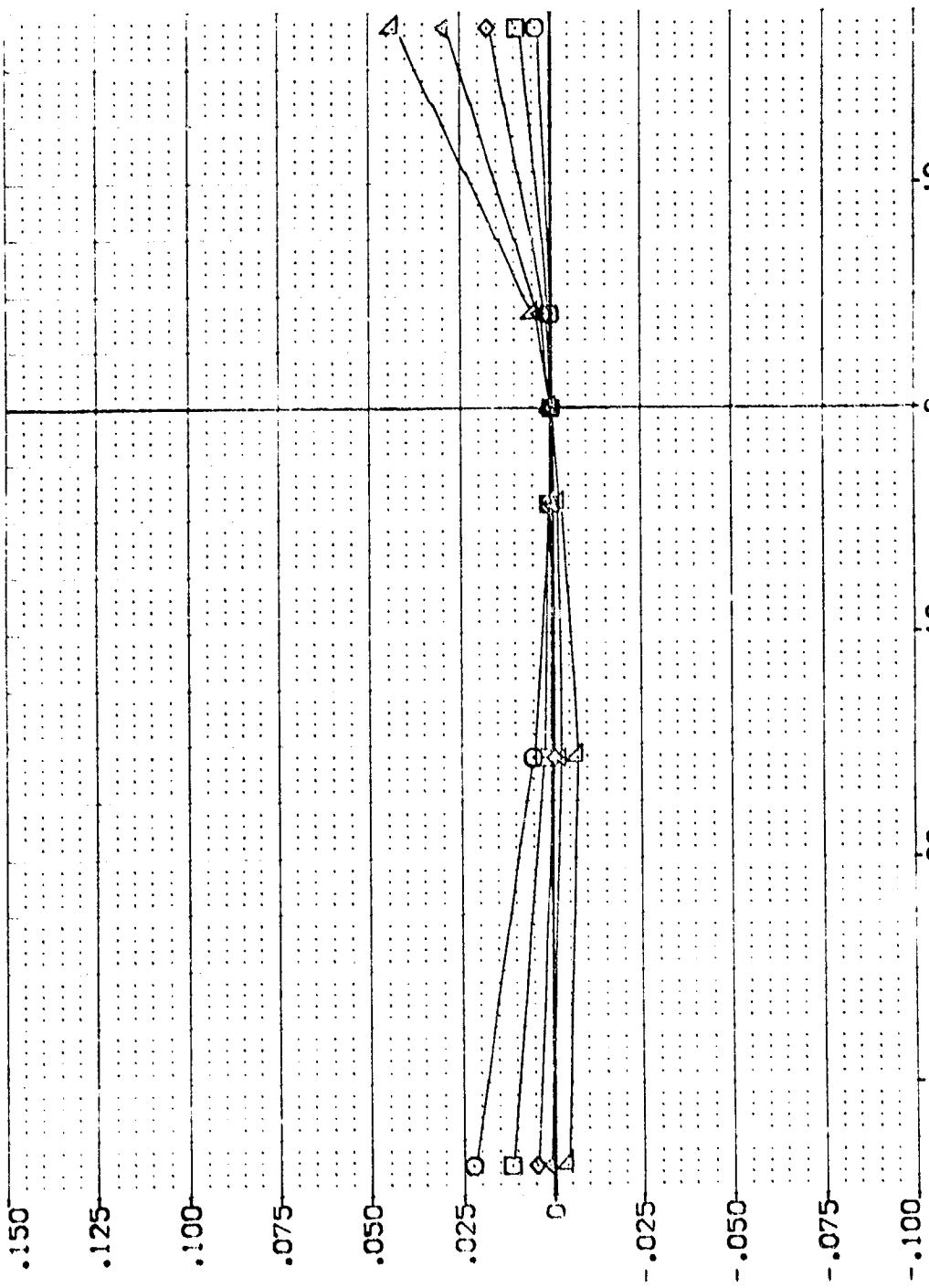
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL
 1
 2
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 4
 5
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PARAMETRIC VALUES
 MACH 4.560
 SPDRK 25.550
 BETA .000
 CNF16 1.000
 BCFLAP -11.700
 DATASET 592001
 DATASET 592002
 DATASET 592003
 DATASET 592004
 DATASET 592005
 DELEVR -15.950
 DELEVR 16.750
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XREF 1081.3500
 YREF .0000
 ZREF .0000
 SCALE .0040

REFERENCE INFORMATION
 50. FT
 IN:
 IN:
 IN:
 IN:
 IN:



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON DEFLECTION ANGLE, DELEVR, DEGREES
 ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

SYMBOL
 □
 ◇
 △
 ▽

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH .600
 SPOBRK 25.550
 BETA .000
 CONF1G 1.000

BOFLAP
 AILRON
 RUDDER

DATA SOURCE
 DELEVR
 -30.650
 -4.310
 4.160

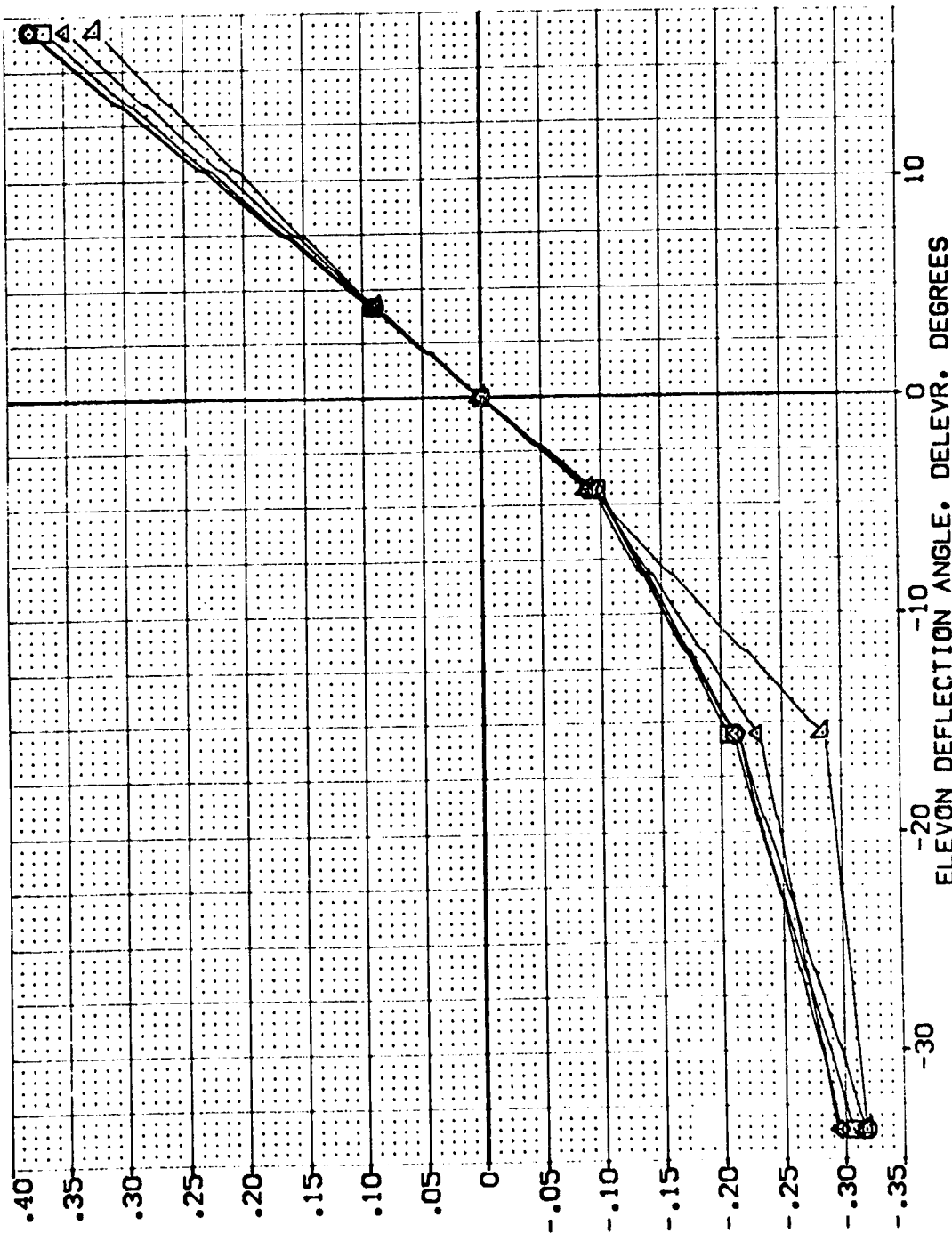
DATASET
 -11.700
 -.320
 .000

592001
 592003
 592004

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XPRP 1081.3900
 YPRP .0000
 ZPRP .0000
 SCALE .0040

50. FT
 IN.
 IN.
 IN.
 IN.
 IN.

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

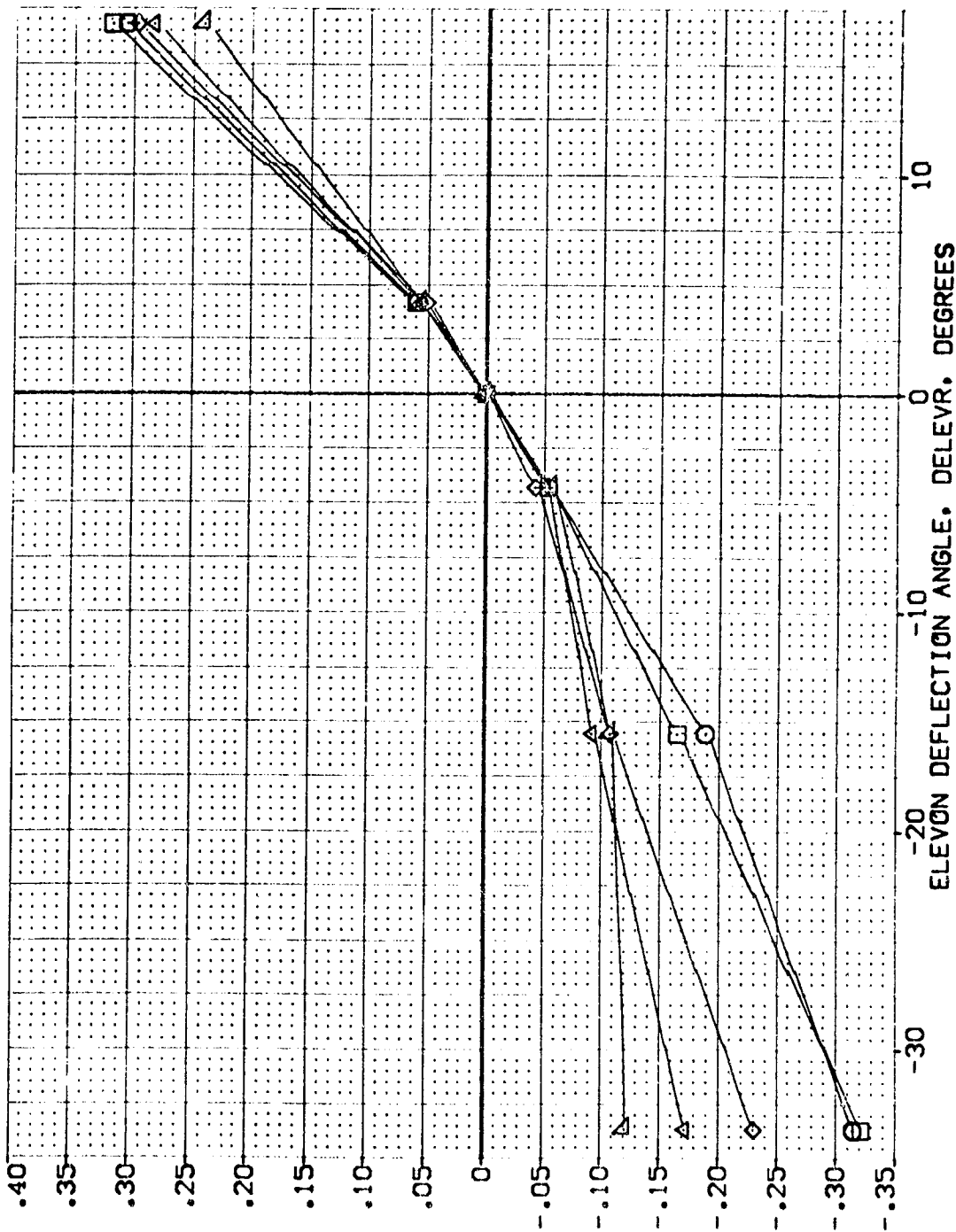


MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL
 ○ □ ◇ △ ▽

ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DELEVR	DATASET	DELEVR	SREF	REFERENCE INFORMATION
.000	.000	BOFLAP	-11.700	DELEVR	592001	-15.550	2741.8000	59. FT
5.000	SPDRK	25.550	-.320	-33.650	592002	.000	481.6480	IN.
10.000	BETA	.000	.000	-4.310	592003	.000	936.7000	IN.
15.000	CONF16	1.000	.000	4.160	592004	16.750	1081.3500	IN.
20.000					592005		.0000	IN.
							.0000	IN.
							.0040	SCALE

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL
 ○ □ ◇ ▲ ▽

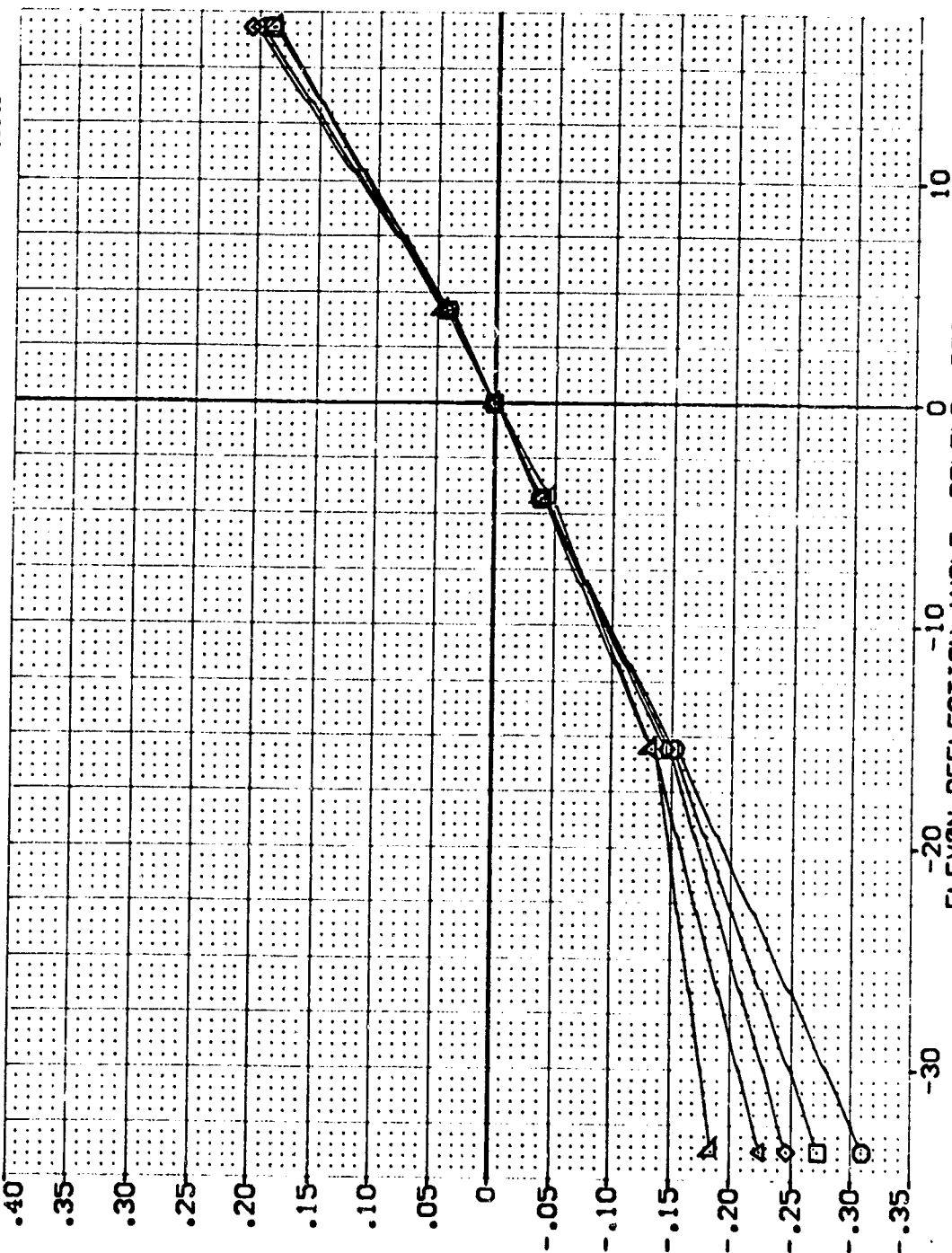
PARAMETRIC VALUES
 ALPHA .000
 MACH 5.000
 SPDRK 25.500
 BETA .000
 CONF18 1.000

DATA SOURCE
 -11.700 DATASET
 -.320 592001
 .000 592003
 .000 592004

DELEVR
 -15.550
 .000
 16.750

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XREF 1081.3500
 YREF .0000
 ZREF .0000
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL
 ○ □ ◇ △

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 1.450
 SPOBRK 25.550
 BETA .000
 CNFIG 1.000

BOFLAP
 AIRON
 RUDDER

DATA SOURCE
 DELEVR
 -33.630
 -4.310
 4.160

DATASET
 -11.700
 -.320
 .000
 .000

592001
 592003
 592004

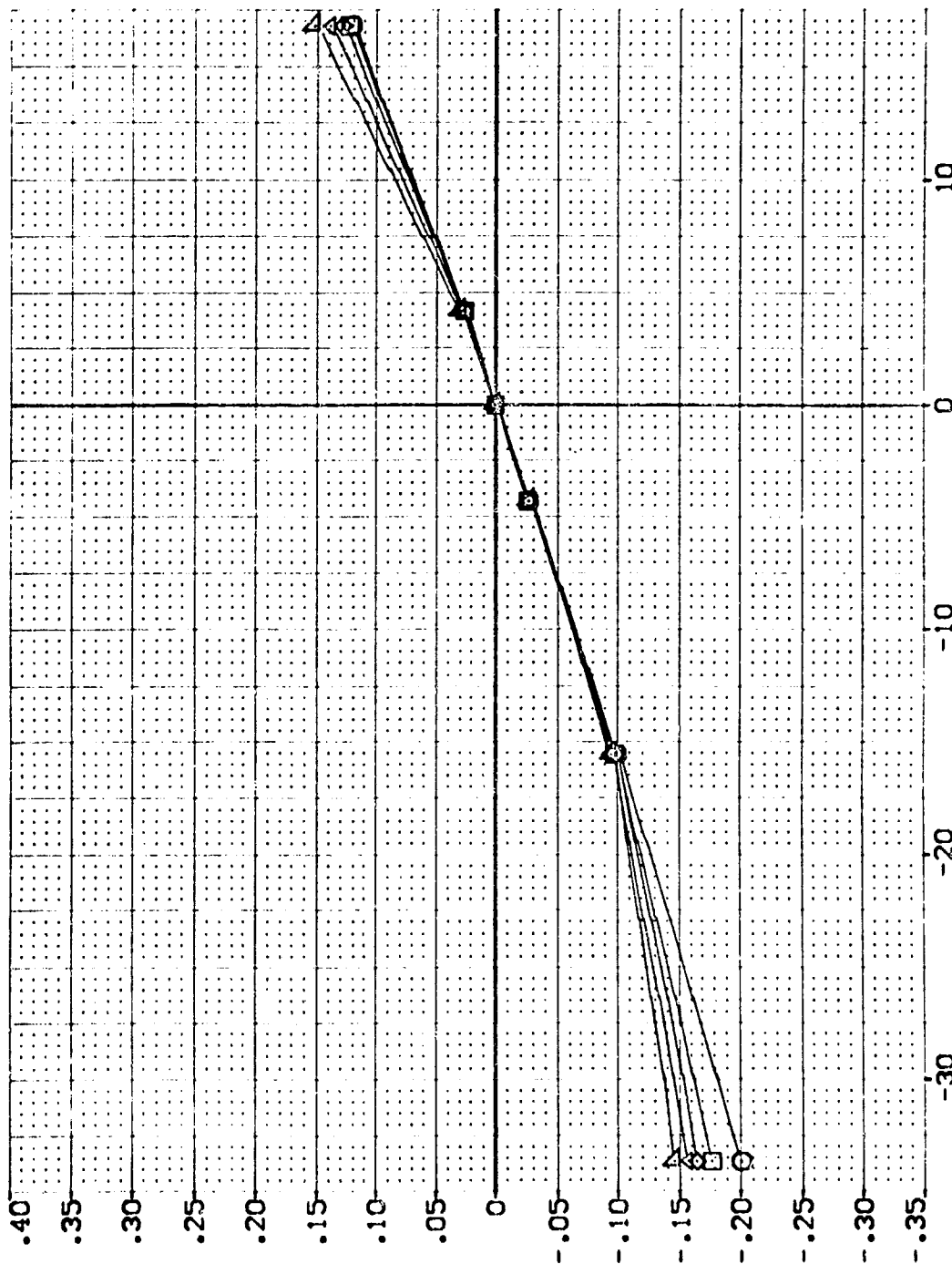
DELEVR
 -15.550
 .000
 16.750

DATASET
 592002
 592004
 592005

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XTRP 1081.3800
 YTRP .0000
 ZTRP .0000
 SCALE .0040

SQ. FT
 IN.
 IN.
 IN.
 IN.
 IN.

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON DEFLECTION ANGLE, DELEVR, DEGREES
 ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL

○ □ ◇ △ ▽

ALPHA
.000
5.000
10.000
15.000
20.000

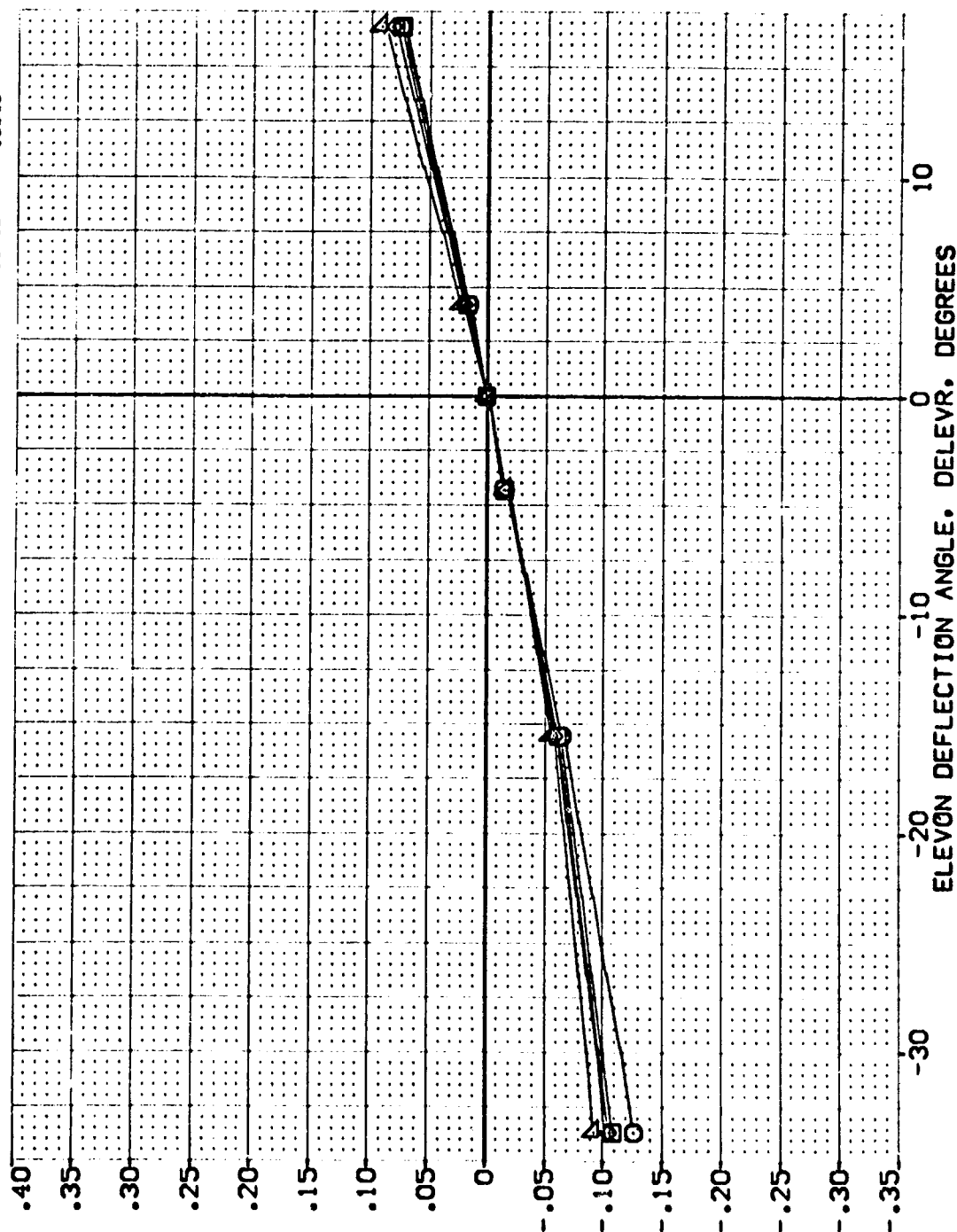
PARAMETRIC VALUES
MACH 1.950
SPOBRK 25.550
BETA .000
CONF16 1.000

DATA SOURCE
BOFLAP -11.700
AIIRON -32.650
RUDDER .000
DATASET 592001
592003
592004

DELEVR
-15.550
REF
16.750
DATASET 592002
592004
592005

REFERENCE INFORMATION
SREF 2741.8000
LREF 481.6480
BREF 936.7000
XREF 1081.3500
YREF .0000
ZREF .0000
SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL
 ○ □ ◇ △ ▽

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

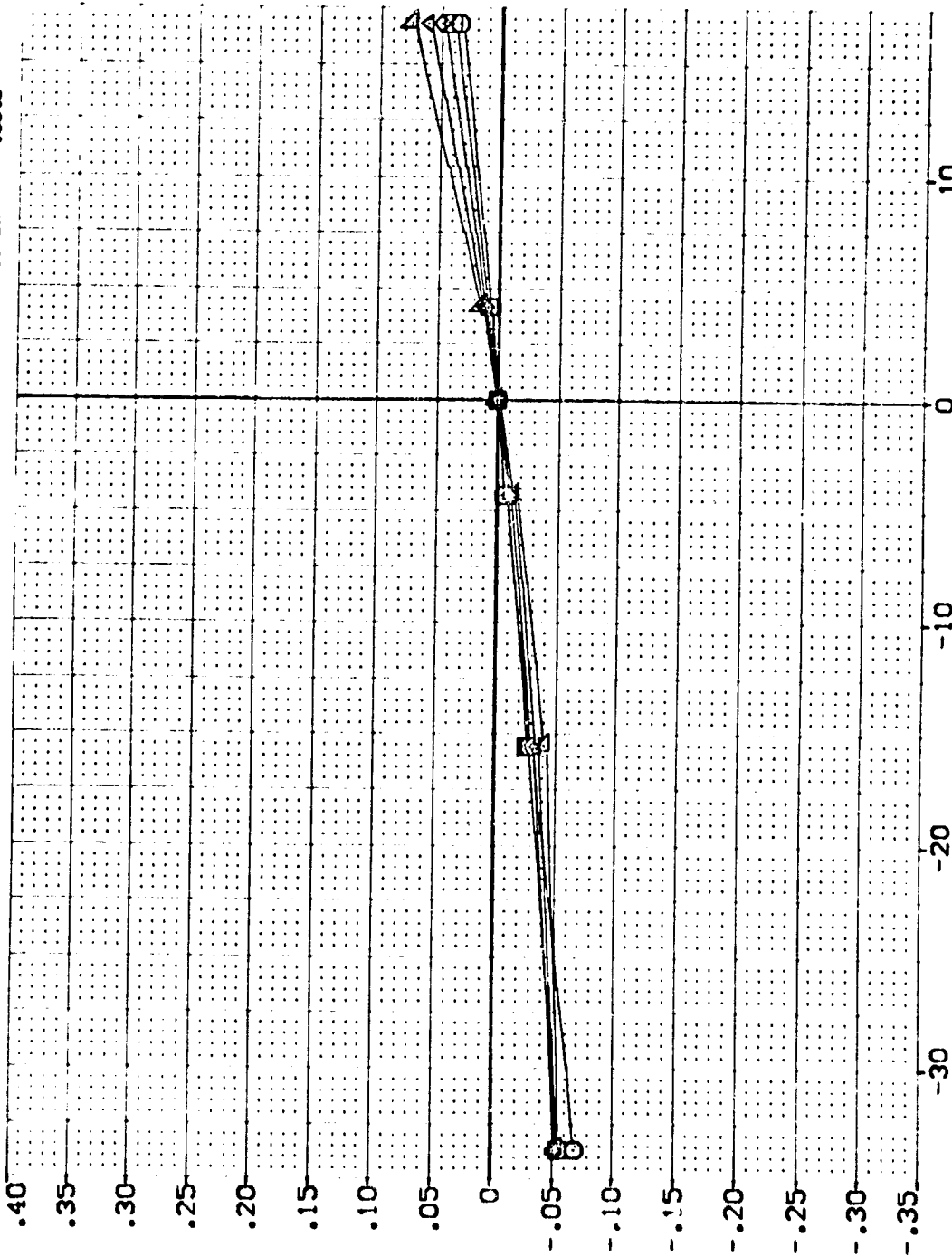
PARAMETRIC VALUES
 MACN 2.920
 SPDRK 25.550
 BETA .000
 CNF10 1.000

DATA SOURCE
 DELEV -11.700
 DAT/SET 592001
 592003
 592004

DELEV -15.550
 DATASET 592002
 592004
 592005

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XPRP 1081.3900
 YPRP .0000
 ZPRP .0000
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON DEFLECTION ANGLE, DELEV, DEGREES
 ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

SYMBOL
 O
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ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

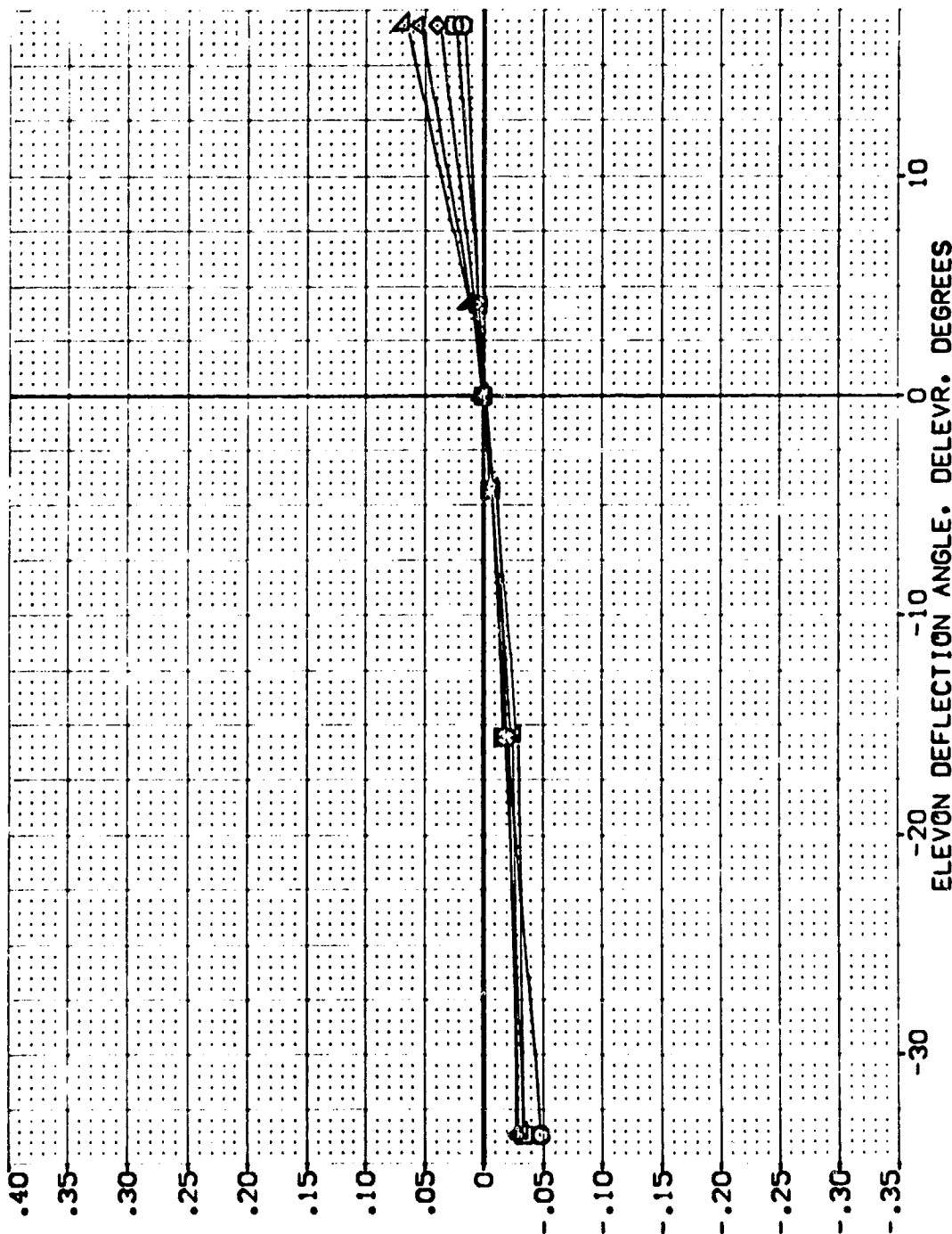
PARAMETRIC VALUES
 MACH 4.950
 SPEED 25.550
 BETA .000
 CONFID 1.000

DATA SOURCE
 DELEV -11.700
 DATASET 592001
 DELEV -33.650
 DATASET 592003
 DELEV -4.310
 DATASET 592004

REFERENCE INFORMATION
 SREF 2741.800
 LREF 481.6480
 BREF 936.7000
 XREF 1081.3500
 YREF .0000
 ZREF .0000
 SCALE .0040

SQ. FT
 IN.
 IN.
 IN.
 IN.
 IN.

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



SYMBOL
 ○
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ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH .500
 SPOBRK 25.550
 BETA .000
 CONF16 1.000

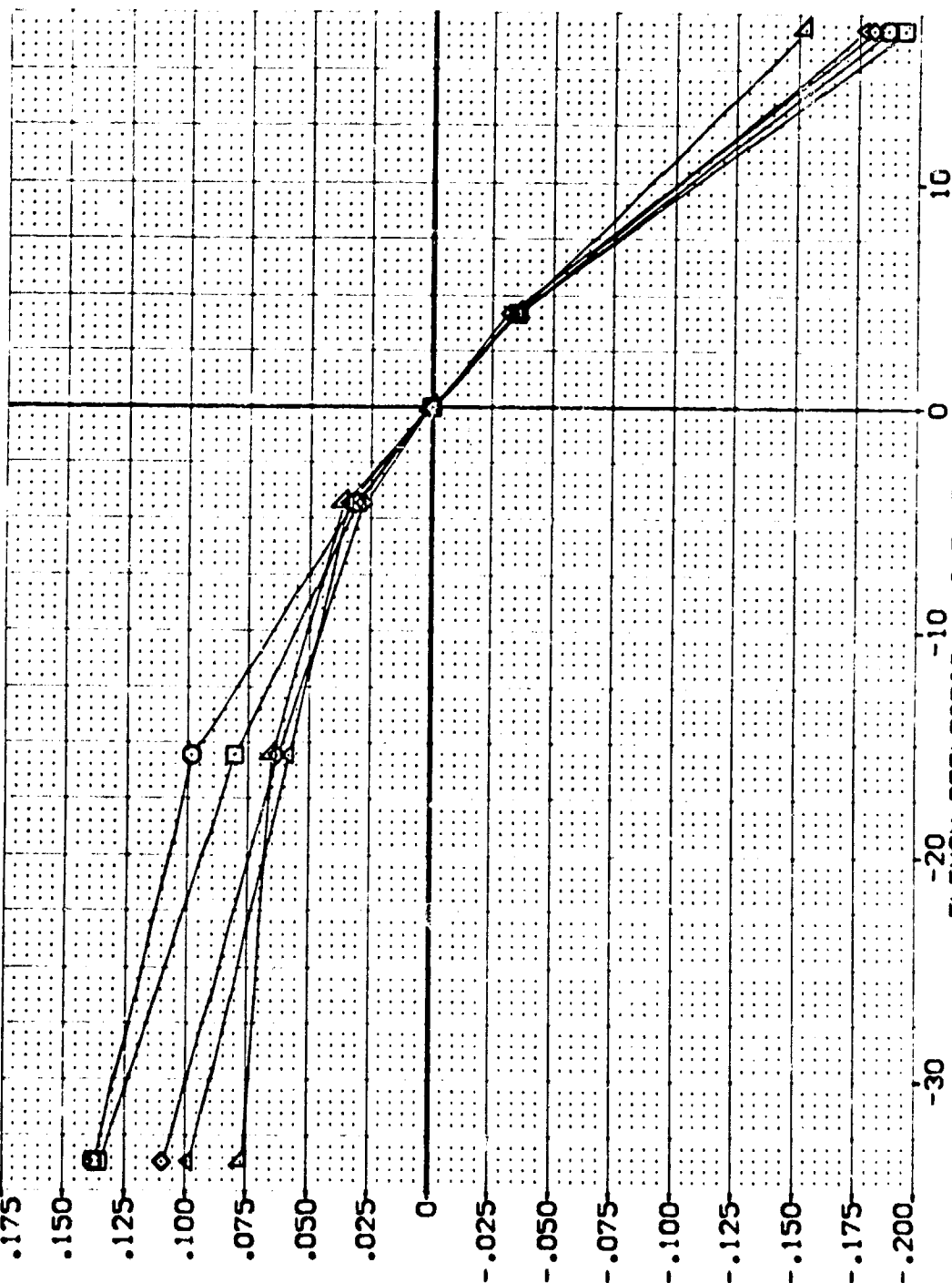
DATA SOURCE
 -11.700
 -320
 .000
 .000

DATASET
 592001
 592003
 592004

DELEVR
 -33.650
 -4.310
 4.160

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XREF 1081.3500
 YREF .0000
 ZREF .0000
 SCALE .0040

SO: FT
 IN:
 IN:
 IN:
 IN:
 IN:



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

HSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL
○ □ ◇ △

ALPHA
.000
5.000
10.000
15.000
20.000

MACH
SPDRK
BETA
CONFIG

PARAMETRIC VALUES
1.200
25.550
.000
1.000

BD FLAP
AILRON
RUDDER

-11.700
-.320
.000
592001
592003
592004

DATA SOURCE
DELEVR
-33.650
-4.310
4.160

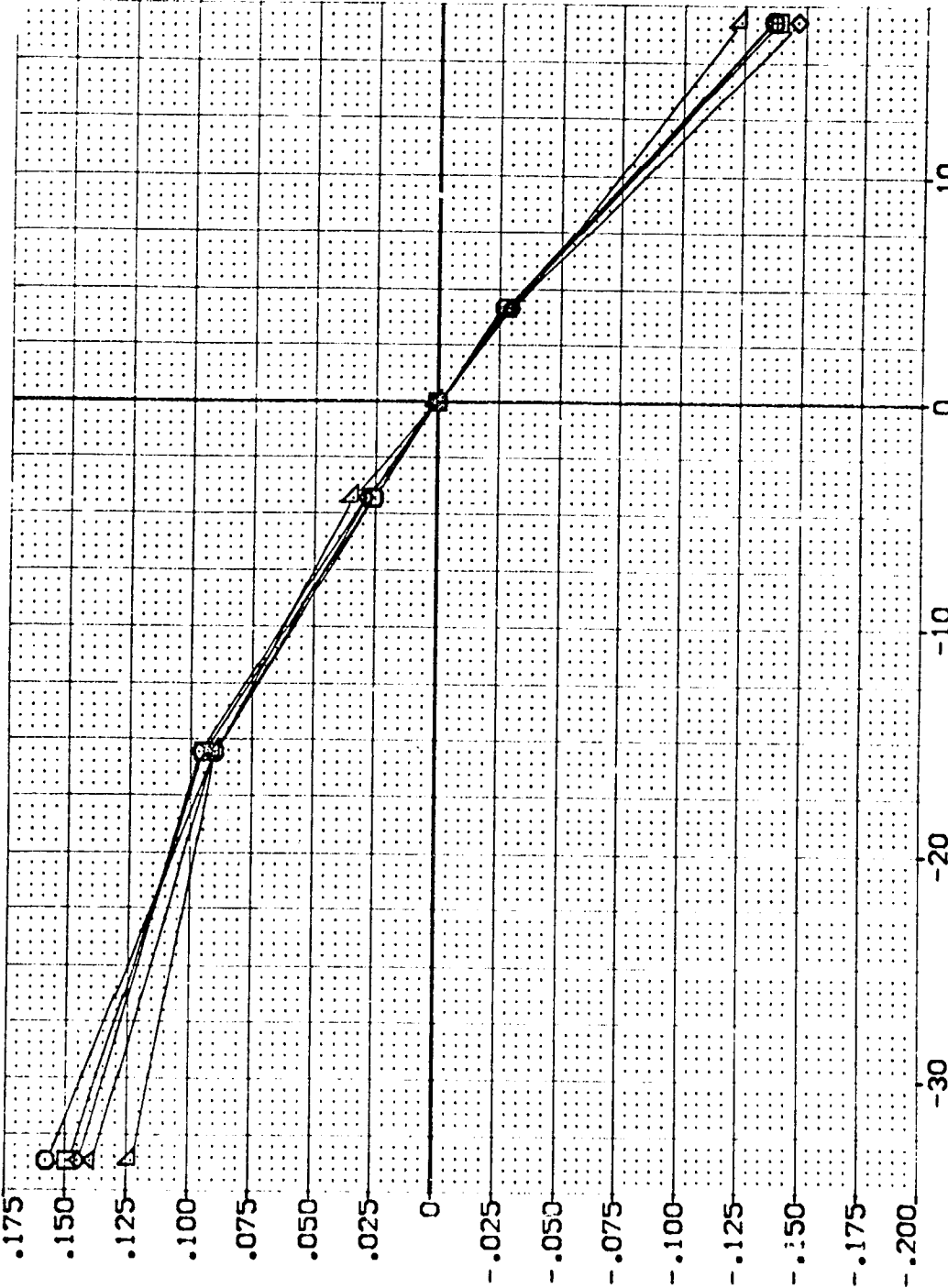
DATASET
592002
592004
592005

DELEVR
-15.550
.000
16.750

REFERENCE INFORMATION
SREF
LREF
BREF
XMRP
YMRP
ZMRP
SCALE

50. FT
IN.
IN.
IN.
IN.
IN.
IN.

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

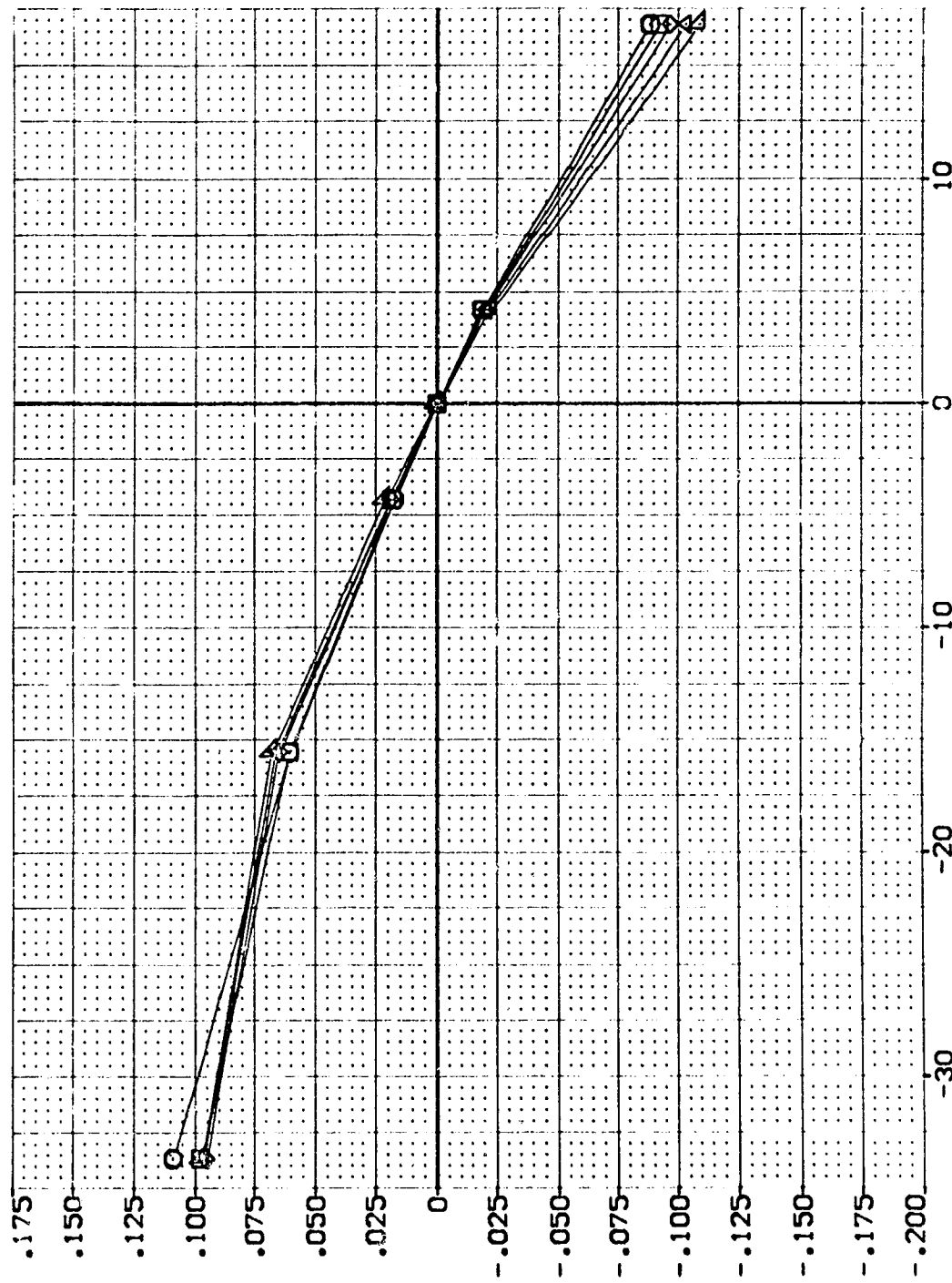
SYMBOL
 ○ □ ◇ △ ▽

ALPHA .000 MACH 1.450 BOFLAP 25.550 AILRON .000 RUDDER 1.000
 5.000 SPDRK 25.550 AILRON .000 RUDDER 1.000
 10.000 BETA 25.550 AILRON .000 RUDDER 1.000
 15.000 CONF16 25.550 AILRON .000 RUDDER 1.000
 20.000

DATA SOURCE
 DELEVR -11.700 DATASET 592001
 DELEVR -33.550 DATASET 592003
 DELEVR -4.310 DATASET 592004
 DELEVR 4.160 DATASET 592005

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.5480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



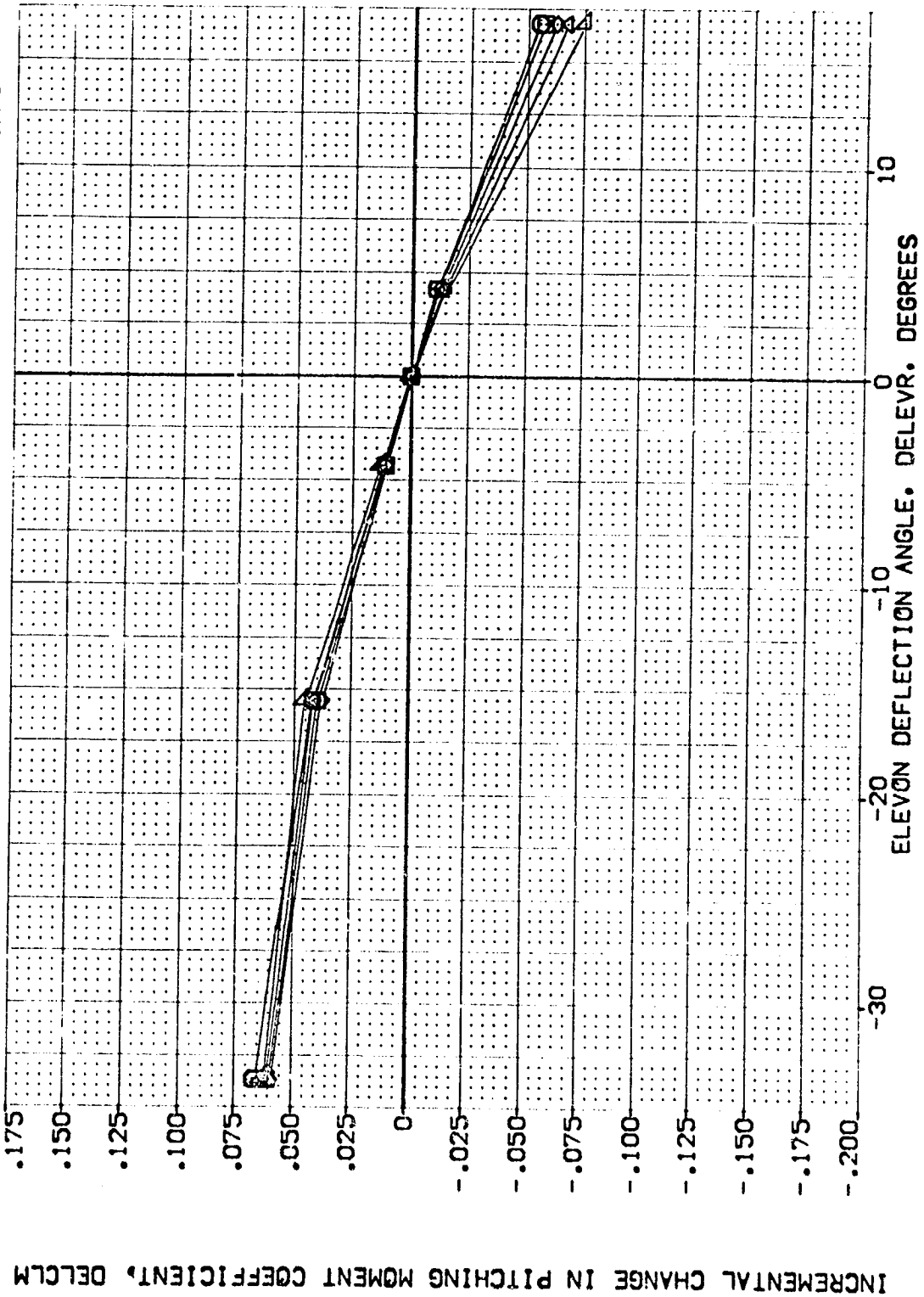
MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL
○ □ ◇ △

PARAMETRIC VALUES
MACH 1.550
SPDRK 25.550
BETA .000
CONF16 1.000

DATA SOURCE
DELEVR -11.700
DATASET 592001
592002
592003
592004

REFERENCE INFORMATION
SREF 2741.8000
LREF 481.6480
BREF 536.7000
XMRP 1081.3500
YMRP .0000
ZMRP .0000
SCALE .0040



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR)

(592001)

SYMBOL
 O □ ◇ △ ▽

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

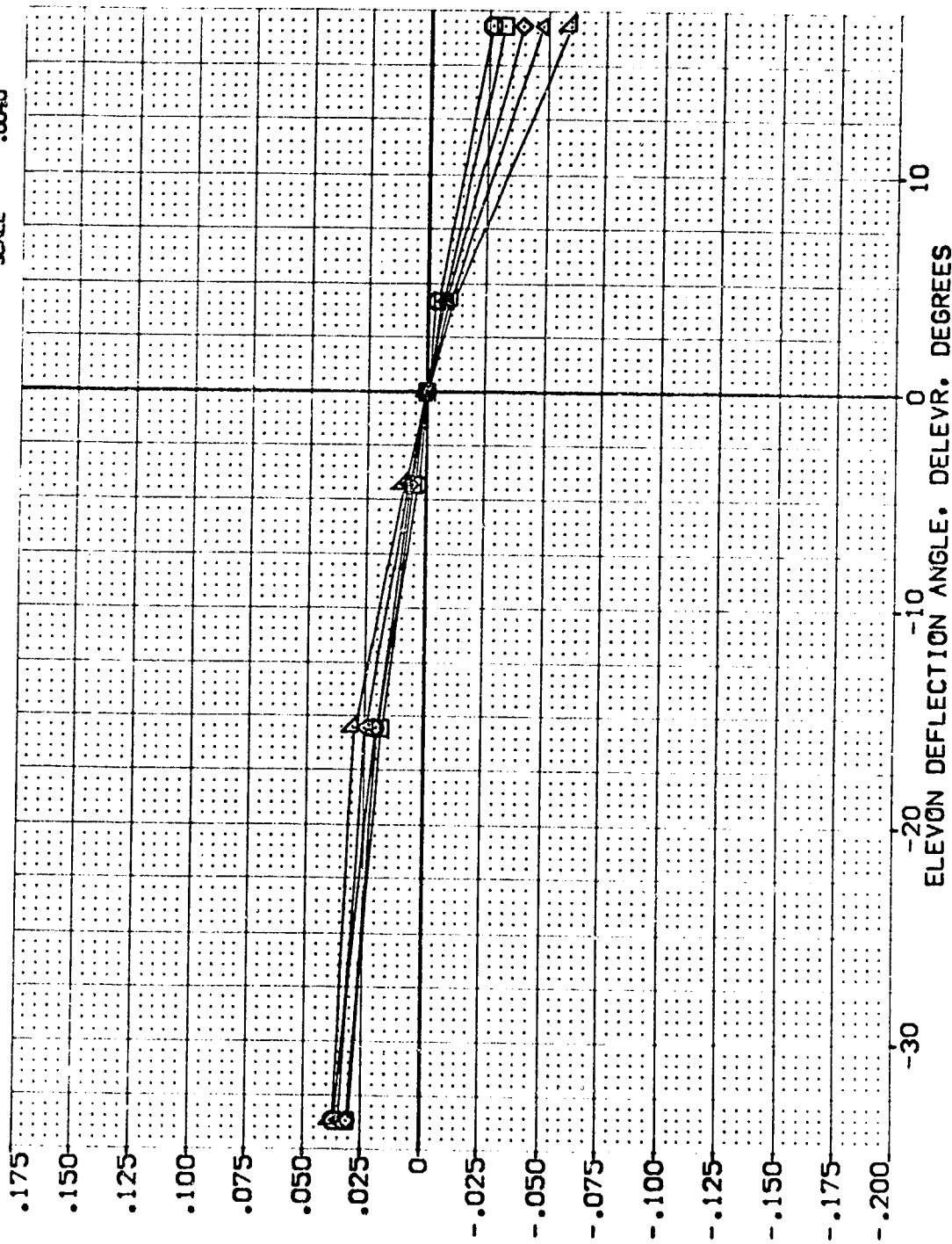
PARAMETRIC VALUES
 MACH 2.950
 SPOBRK 25.550
 BETA .000
 CONF16 1.000

DATA SOURCE
 BOFLAP -11.700
 DATASET -320
 AILRON .000
 RUDDER .000

DELEVR
 -33.650
 -4.310
 4.160

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 536.7000
 XMRP 1081.3900
 YMRP .0000
 ZMRP .0000
 SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL
 □ ◇ △ ▴

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

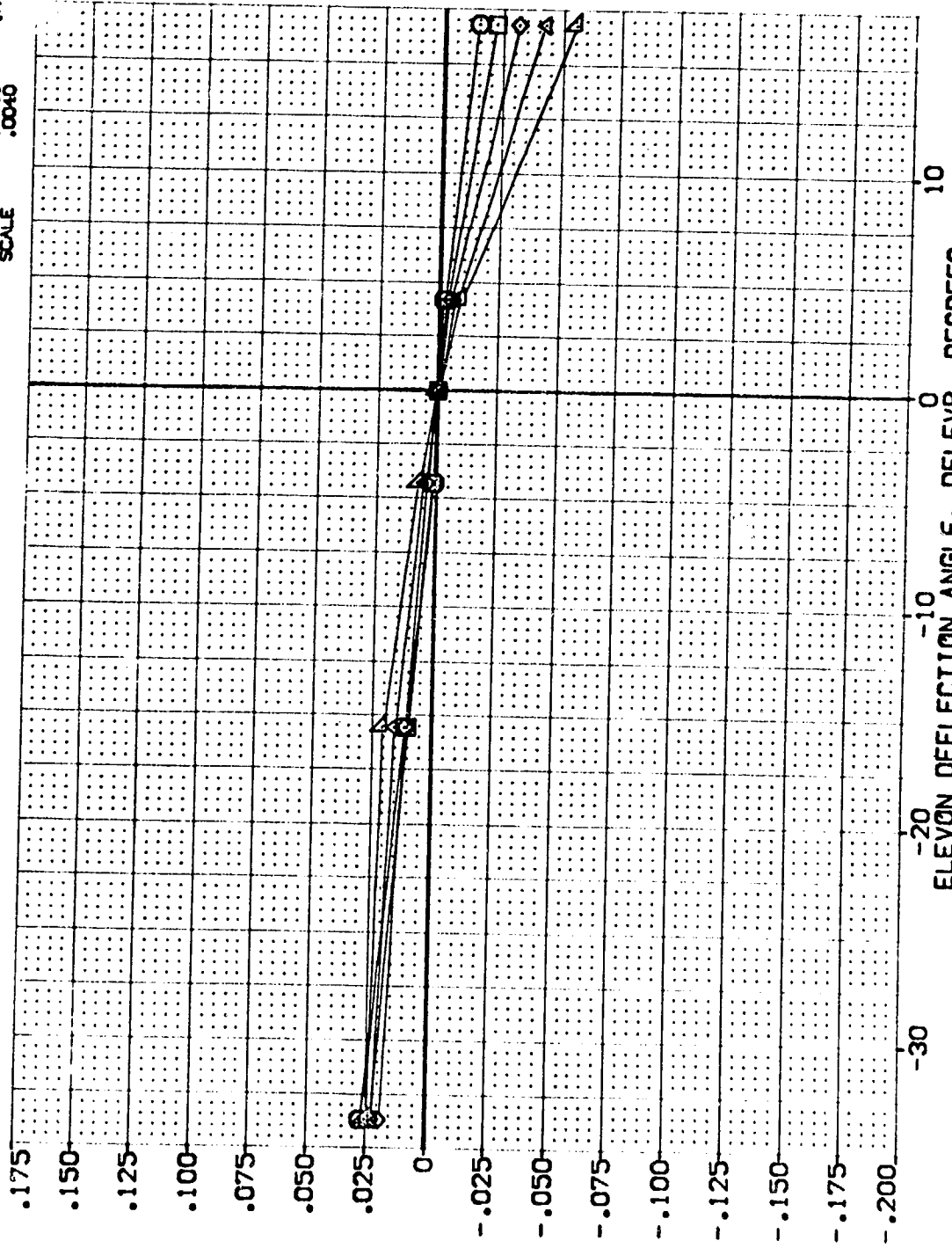
PARAMETRIC VALUES
 MACH 4.950
 SPOBRK 25.550
 BETA .000
 CONFIG 1.000

DATA SOURCE
 DEFLVR -11.700
 DATASET -320
 DATASET 592001
 DATASET 592003
 DATASET 592004

DEFLVR -15.550
 DATASET 592002
 DATASET 592004
 DATASET 592005

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6460
 BREF 356.7000
 XTRP 1081.3500
 YTRP .0000
 ZTRP .0000
 SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)
 ELEVON DEFLECTION ANGLE, DEGLVR, DEGREES

SYMBOL
 ○ □ ◇ △ ▽

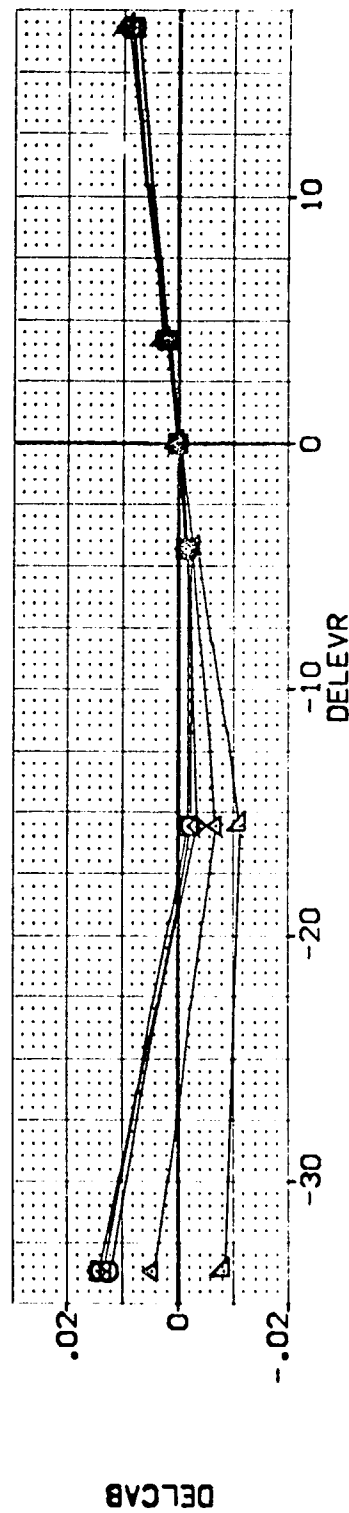
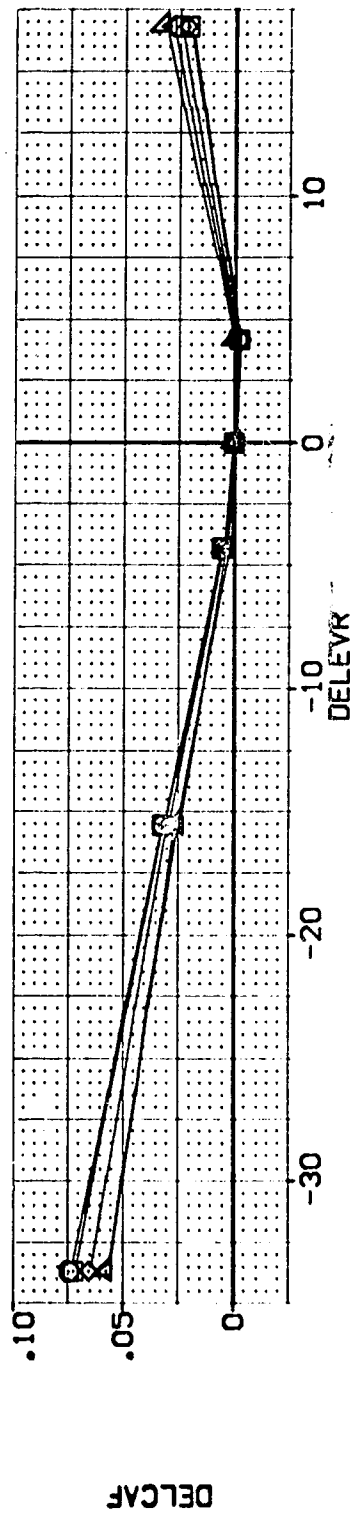
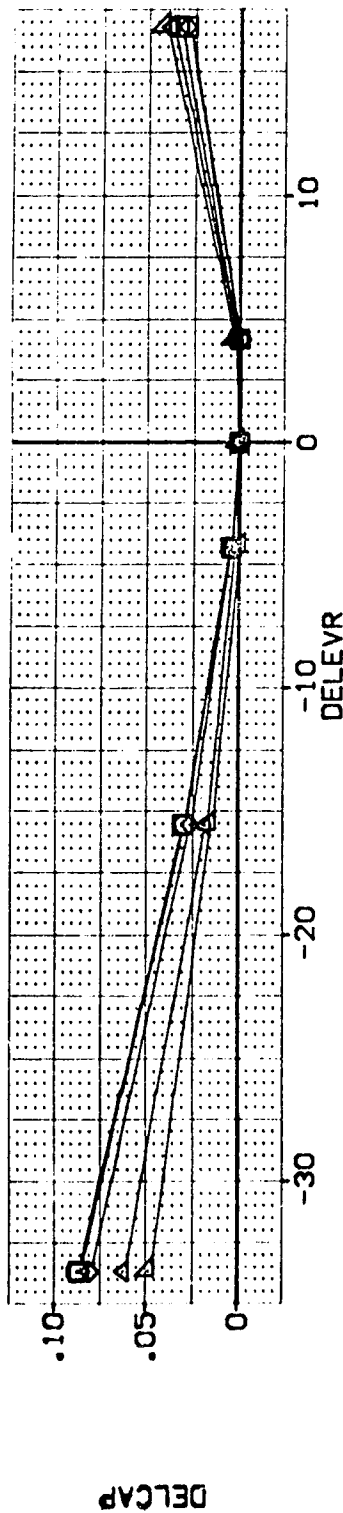
PARAMETRIC VALUES
 MACH .000
 SPDRBK 25.550
 BETA .000
 CONFIG 1.000

DATA SOURCE
 BOFLAP -11.700
 DATASET -320
 DELEVR -33.550
 AILRON -4.310
 RUDDER 4.160

DATASET
 582002
 582004
 582005

DELEVR
 -15.550
 .000
 16.750

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XMRP 1081.2800
 YMRP .0000
 ZMRP .0000
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

SYMBOL
 ○ □ ◇ △

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH .900
 SPOBRK 25.550
 BETA .000
 CNFIG 1.000

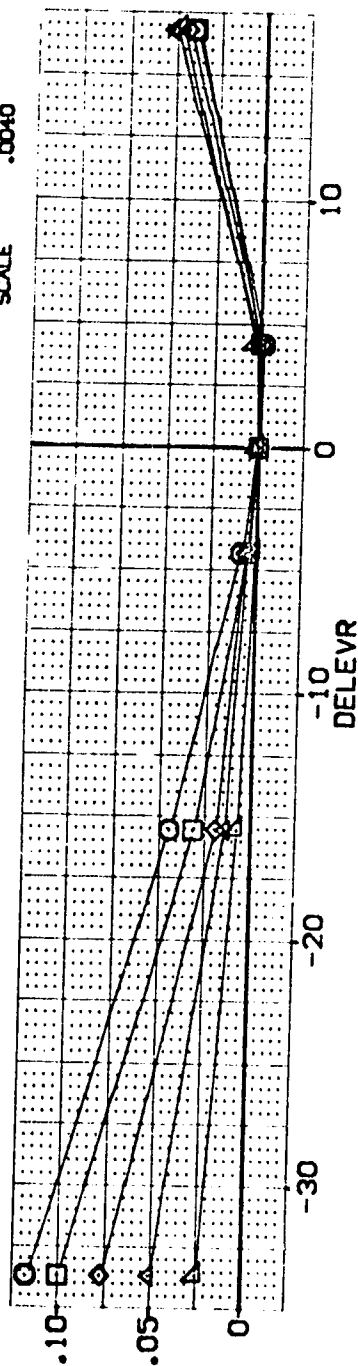
DATA SOURCE
 DELEVR -39.650
 -4.310
 4.160

DATASET
 592001
 592003
 592004

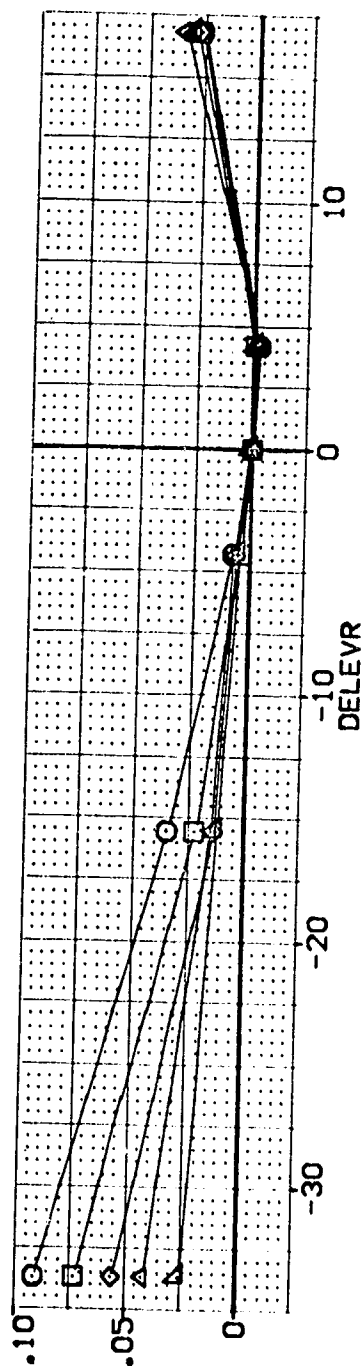
DELEVR
 -15.550
 .000
 16.790

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.8480
 BREF 936.7000
 XREF 1081.3800
 YREF .0000
 ZREF .0000
 SCALE .0040

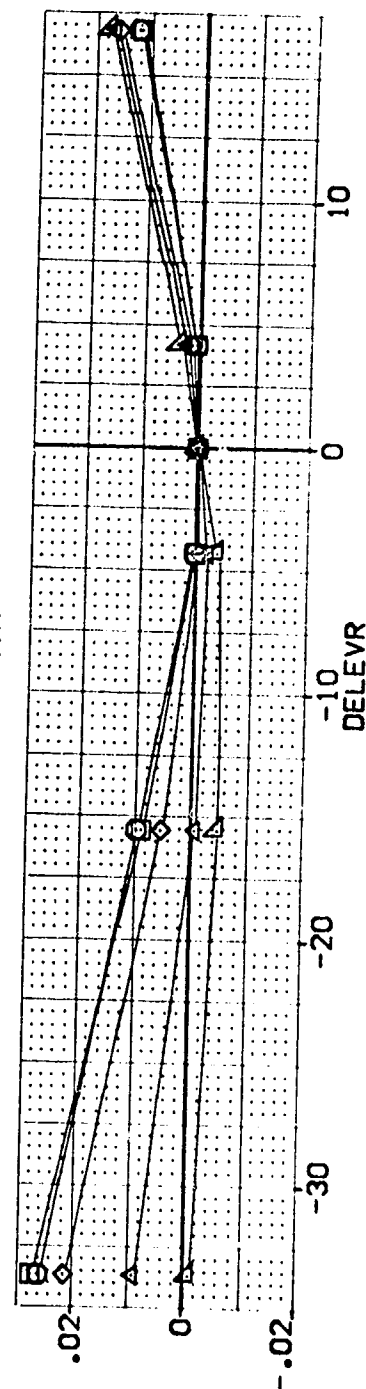
DELCAP



DELCAP



DELCAB



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVEN)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR)

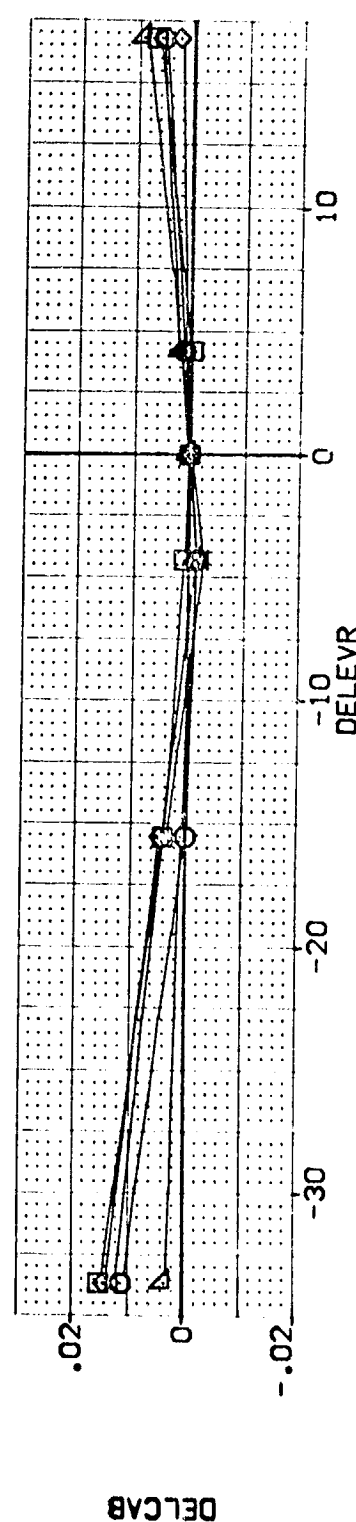
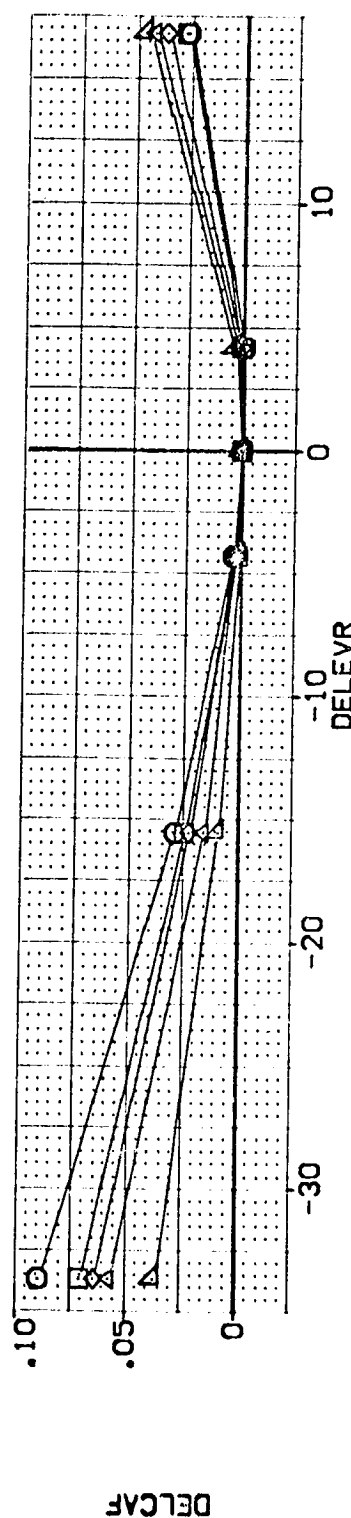
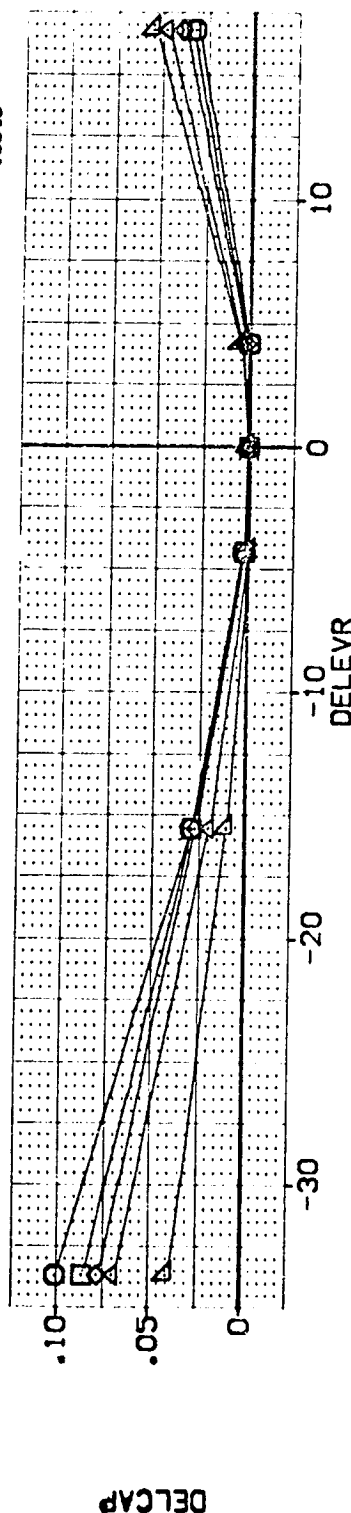
(592001)

SYMBOL
○ □ △ ▽

PARAMETRIC VALUES
MACH 1.200
SPDRK 25.550
BETA .000
CONF10 1.000

DATA SOURCE
DELEVR -11.700
DATASET 592001
-320 592003
.000 592004

REFERENCE INFORMATION
SREF 2741.8000
LREF 481.6480
BREF 936.7000
XREF 1081.2500
YREF .0000
ZREF .0000
SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592001)

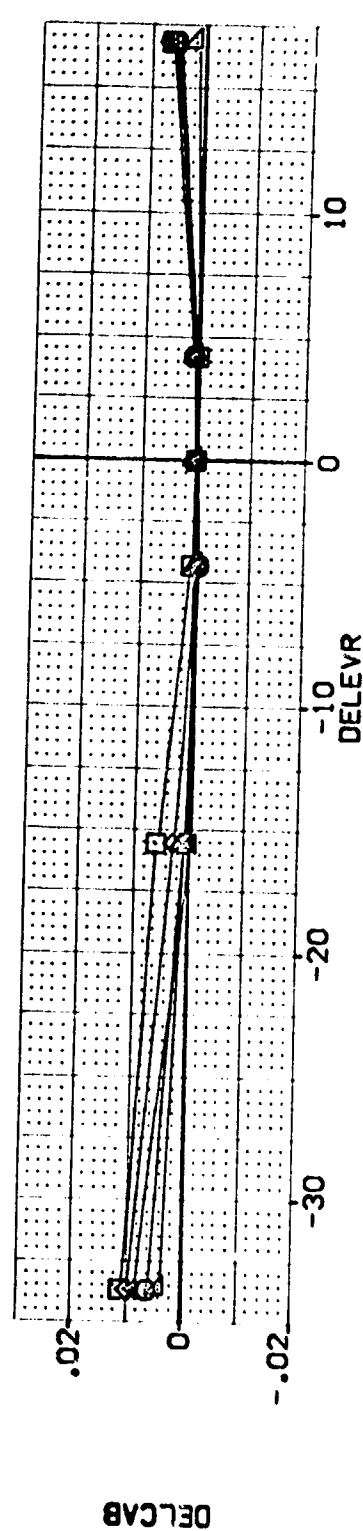
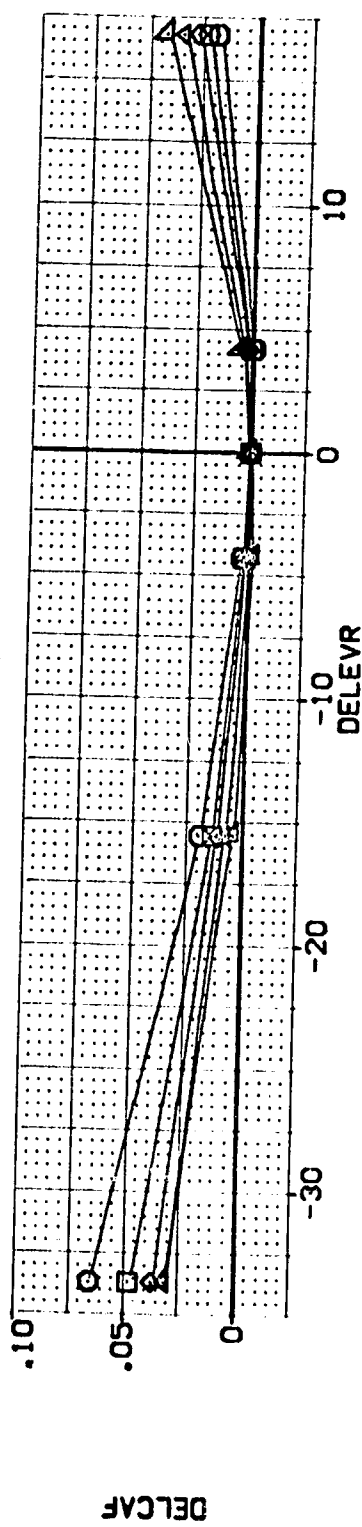
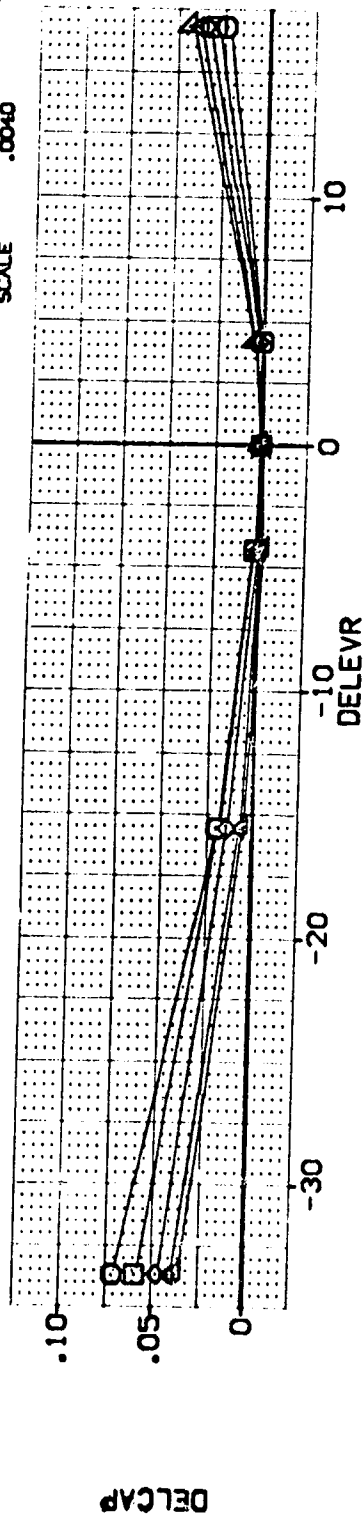
SYMBOL
 ○ □ ◇ △

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 1.460
 SPOBRK 25.550
 BETA .000
 CONF16 1.000

DATA SOURCE
 DELEV -11.700
 DATASET 592001
 DELEV -33.630
 DATASET 592002
 DELEV -4.310
 DATASET 592003
 DELEV 4.160
 DATASET 592004
 DELEV 16.790
 DATASET 592005

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 YMRP 1081.3500
 ZMRP .0000
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR)

(592A01)

SYMBOL
 ○ □ ◇ △

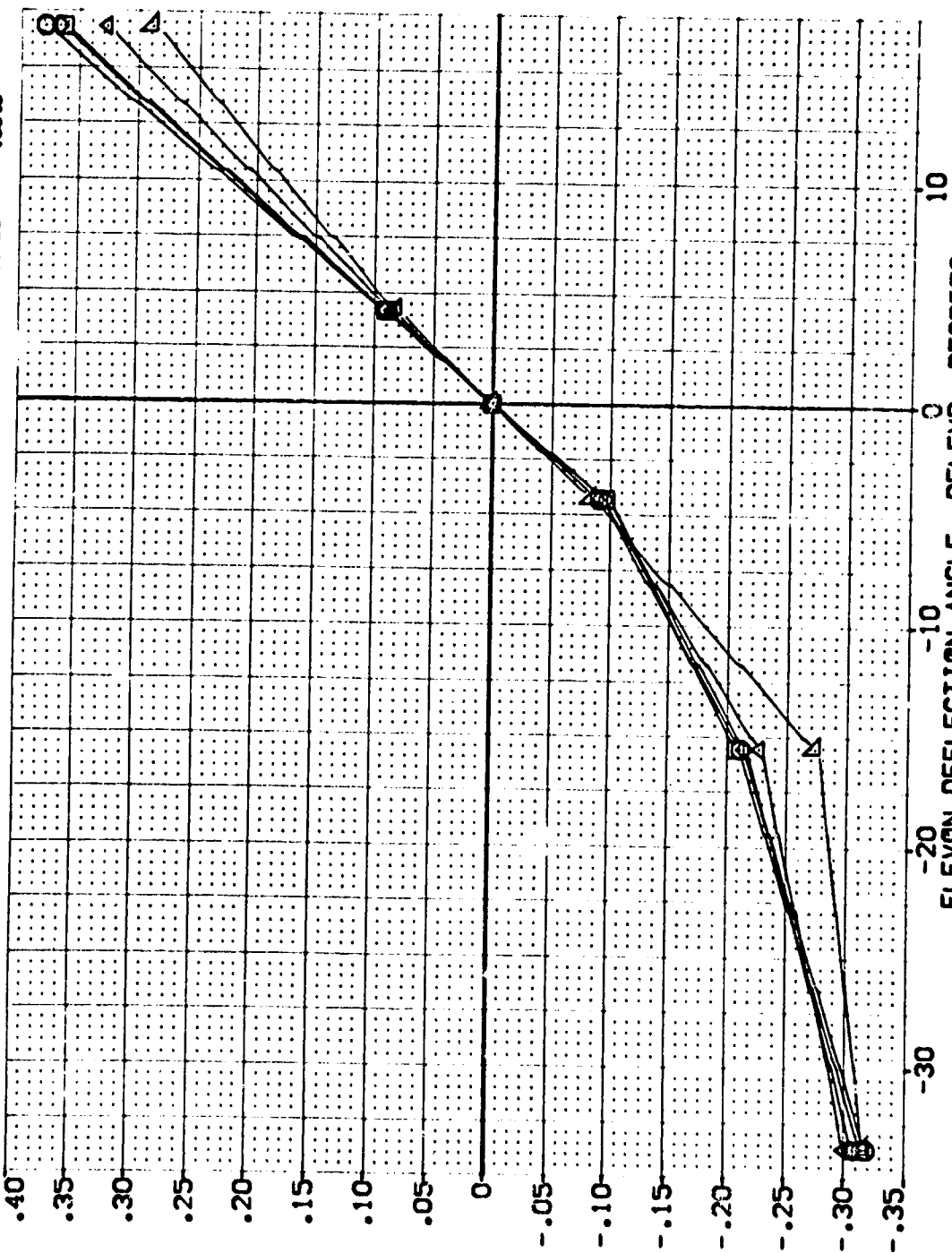
ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH .600
 SPOILER 25.550
 BETA .000
 CONF16 1.000

DATA SOURCE
 DELEVR -11.700
 DATASET -320
 592A01
 592A02
 592A03
 592A04
 592A05

DELEVR
 -23.040
 -4.310
 4.150
 16.750

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 491.6480
 BREF 536.7000
 XTRP 1081.3500
 YTRP .0000
 ZTRP .0000
 SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA

ELEVON DEFLECTION ANGLE, DEGREES
 ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

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MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592A01)

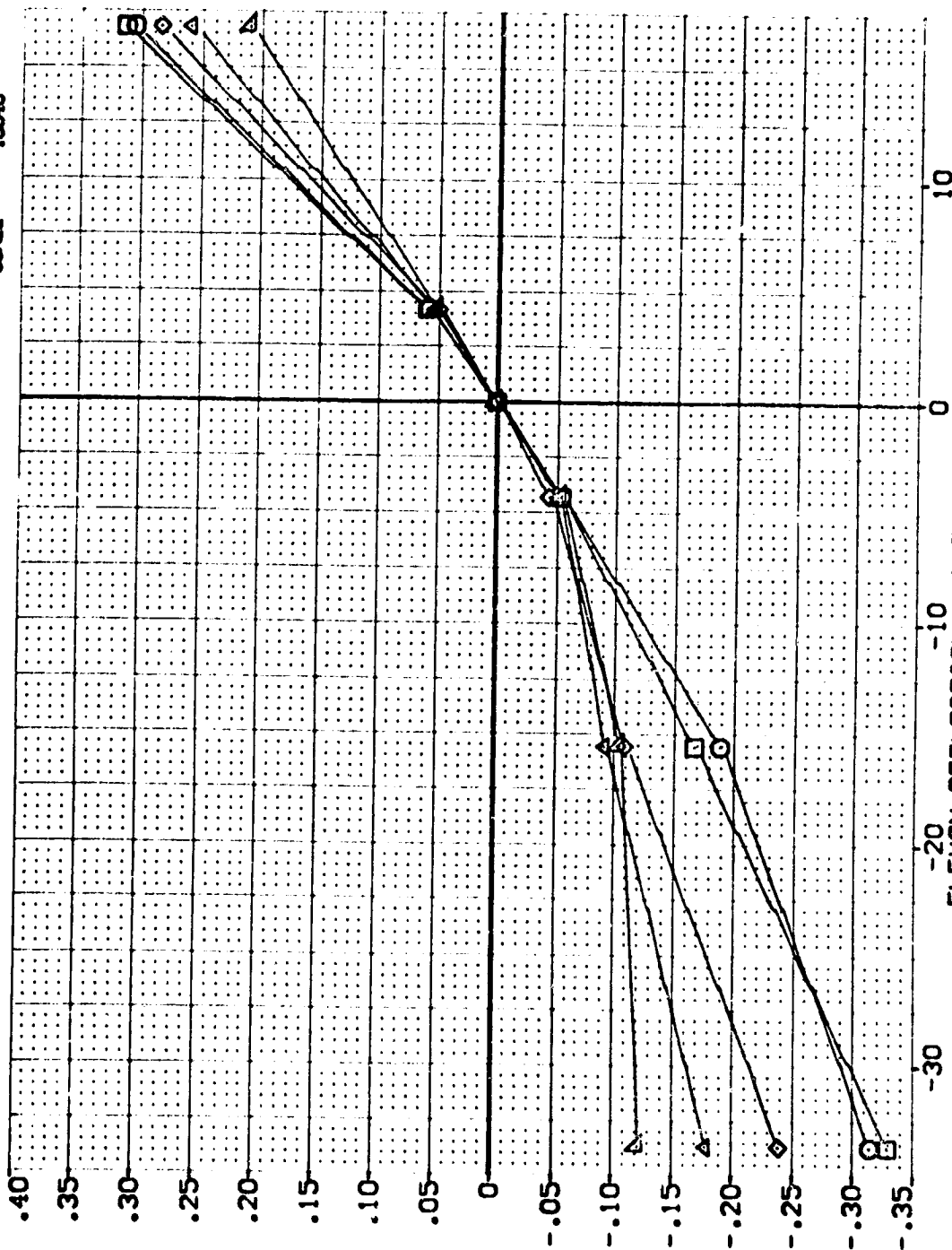
SYMBL
 ○ □ ◇ △

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH .500
 SPDRK 25.550
 BETA .000
 CONFID 1.000

DATA SOURCE
 DELEVR
 -11.700
 -33.650
 -15.550
 13.130

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XREF 1081.2500
 YREF .0000
 ZREF .0000
 SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR)

(592A01)

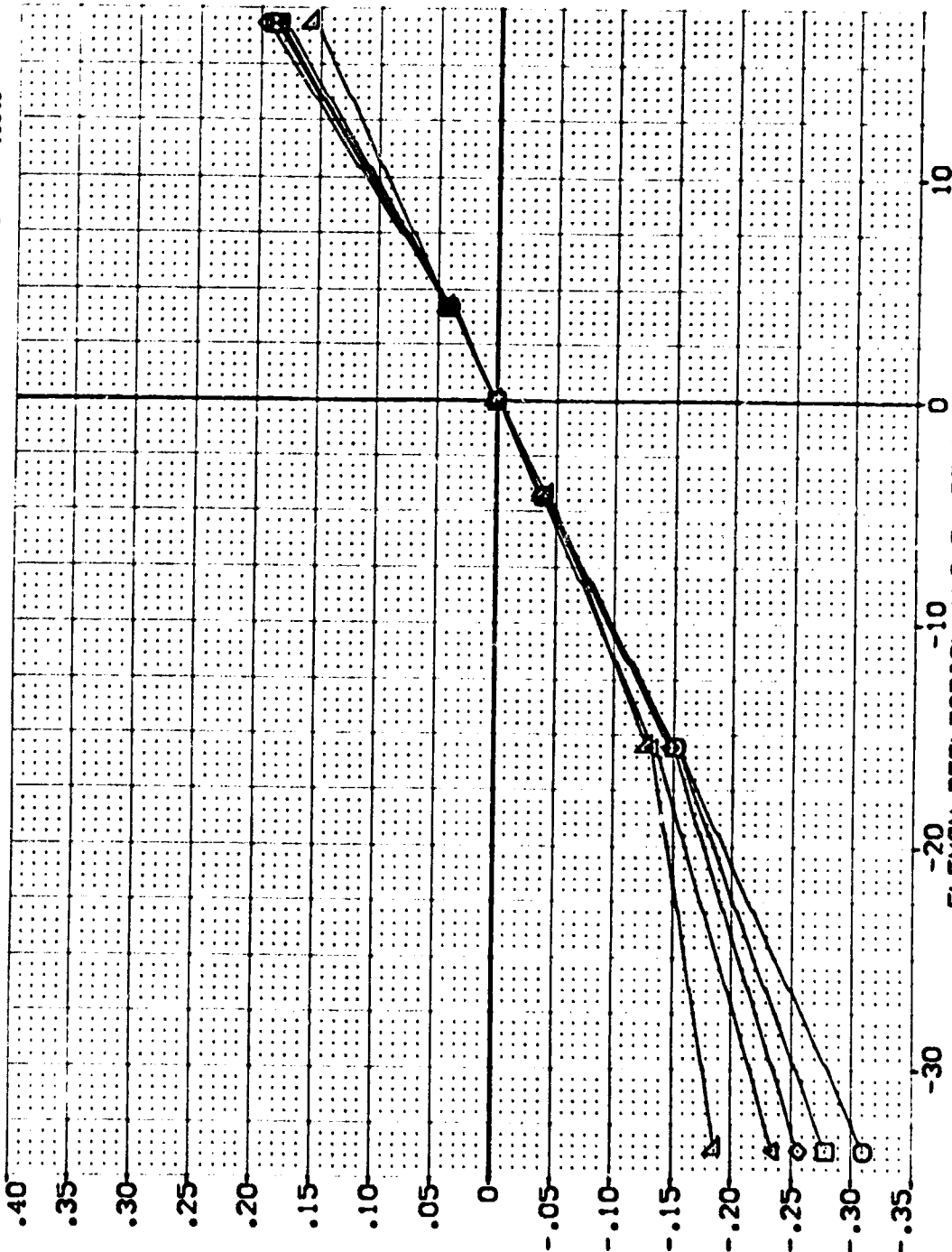
SYMBOL
□ ◇ △

PARAMETRIC VALUES
MACH 1.200
SPOBRK 25.550
BETAP 1.000
CONF16 1.000

DATA SOURCE
-11.700
-3.320
-33.030
-15.550
13.130

DELEV
-23.840
-4.310
4.160
16.790

REFERENCE INFORMATION
2741.8000
491.6480
936.7000
1081.3900
0.0000
0.0000
0.0040

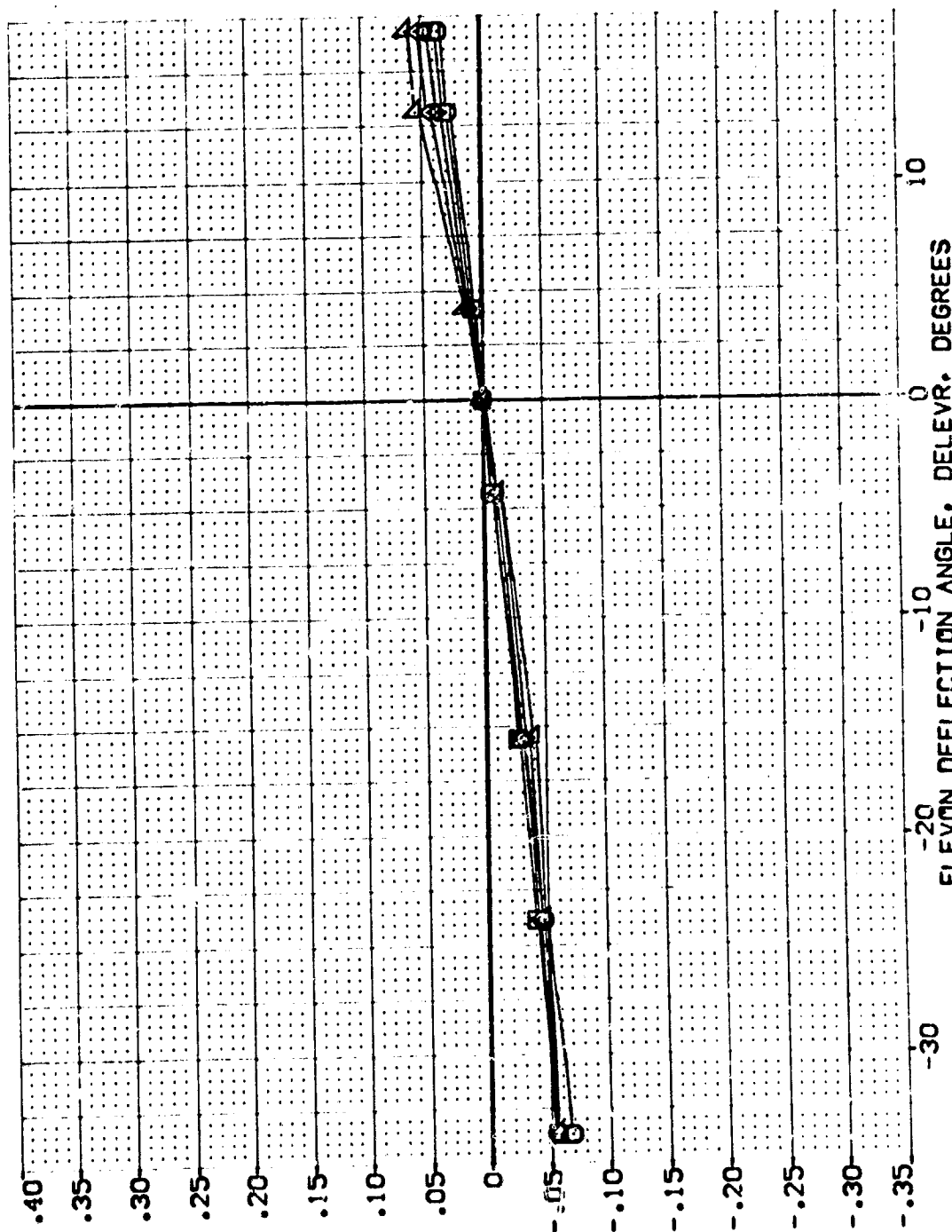


INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

ELEVON DEFLECTION ANGLE, DELEV, DEGREES
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592A01)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DELEVR	DELEVR	REF	REFERENCE INFORMATION
▽	.000		2.950	-11.700	592A01	-33.650	-23.040	LINEF	2741.8000
◇	5.000		25.550	-.300	592A02	-15.550	-4.310	BREF	481.6480
◇	10.000		.000	.000	592A04	-15.550	4.150	XPBP	536.7000
◇	15.000		1.000		592A04	13.130	16.750	YHBP	1081.3500
◇	20.000				592A05			ZHBP	1000.0000
◇								SCALE	.040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)





MSFC 581(0A49) GRB 34-0 (BCFM) (WE)(VR) (592A01)

SYMBOL
○ □ ◇ △

ALPHA
.000
5.000
10.000
15.000
20.000

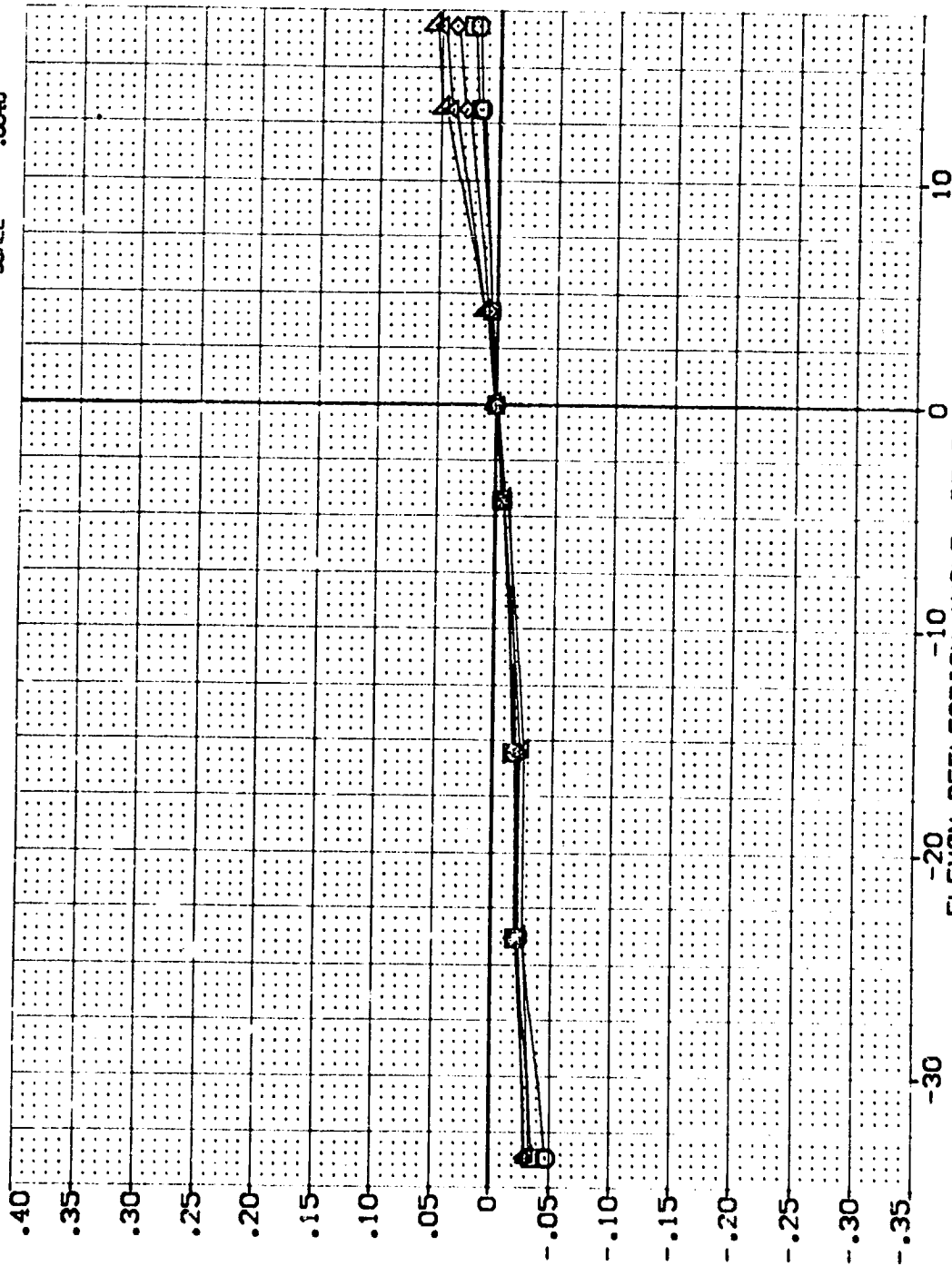
PARAMETRIC VALUES
MACH 4.960
SPOBRK 25.550
BETA .000
CONF IG 1.000

DATA SOURCE
DELEV R -11.700
DATASET 592A01
592A02
592A04
592A05

DELEV R -23.840
DATASET 592A03
592A04
592A05

REFERENCE INFORMATION
SREF 2741.8000 SO. FT
LREF 481.6480 IN.
BREF 555.7000 IN.
XTRP 1081.3900 IN.
YTRP .0000 IN.
ZTRP .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



MSFC 581(0A49) ORR 34-0 (BCFM) (WE)(VR) (592A01)

SINCE

ALPHA
0.000
5.000
10.000
15.000
20.000

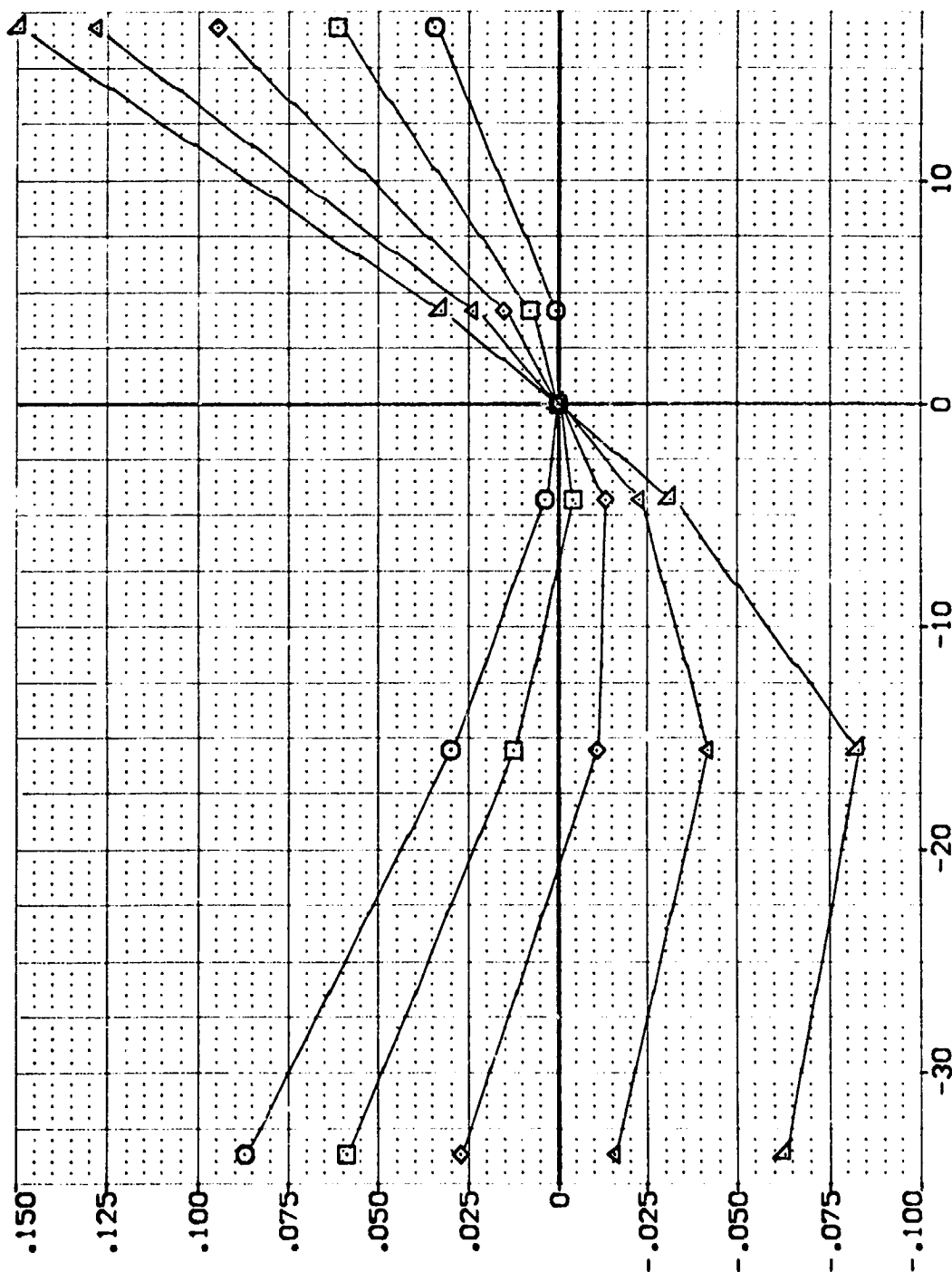
MACH	.600	BDFLAP
SPOBRK	25.750	AIRLON
BETA	.000	RUDDER
CONFIG	1.000	

-11.700 DATASET
-.320 592A01
.000 592A02
59AX04
59A107

DATA SOURCE
DELEVR
-33.650
-15.550
0.000
13.130

DATASET	DELEVR
59A117	-23.843
592A03	-4.310
592A04	4.160
592A05	16.790

REFERENCE INFORMATION	SQ. FT
2741.8000	IN.
481.6480	IN.
936.7000	IN.
1091.3900	IN.
.0000	IN.
.0000	IN.



ELEVON DEFLECTION ANGLE, DEGR. 0

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR)

(592A01)

SYMBOL
○
□
◇
△

ALPHA
.000
5.000
10.000
15.000
20.000

MACH
SPDRK
BETA
CONF16

PARAMETRIC VALUES
BOFLAP
AILRON
RUDDER

-11.700
-.300
.000
59A107

DATASET
592A01
592A02
59A104
59A107

DATA SOURCE
DELEVR
-33.650
-15.550
.000
13.130

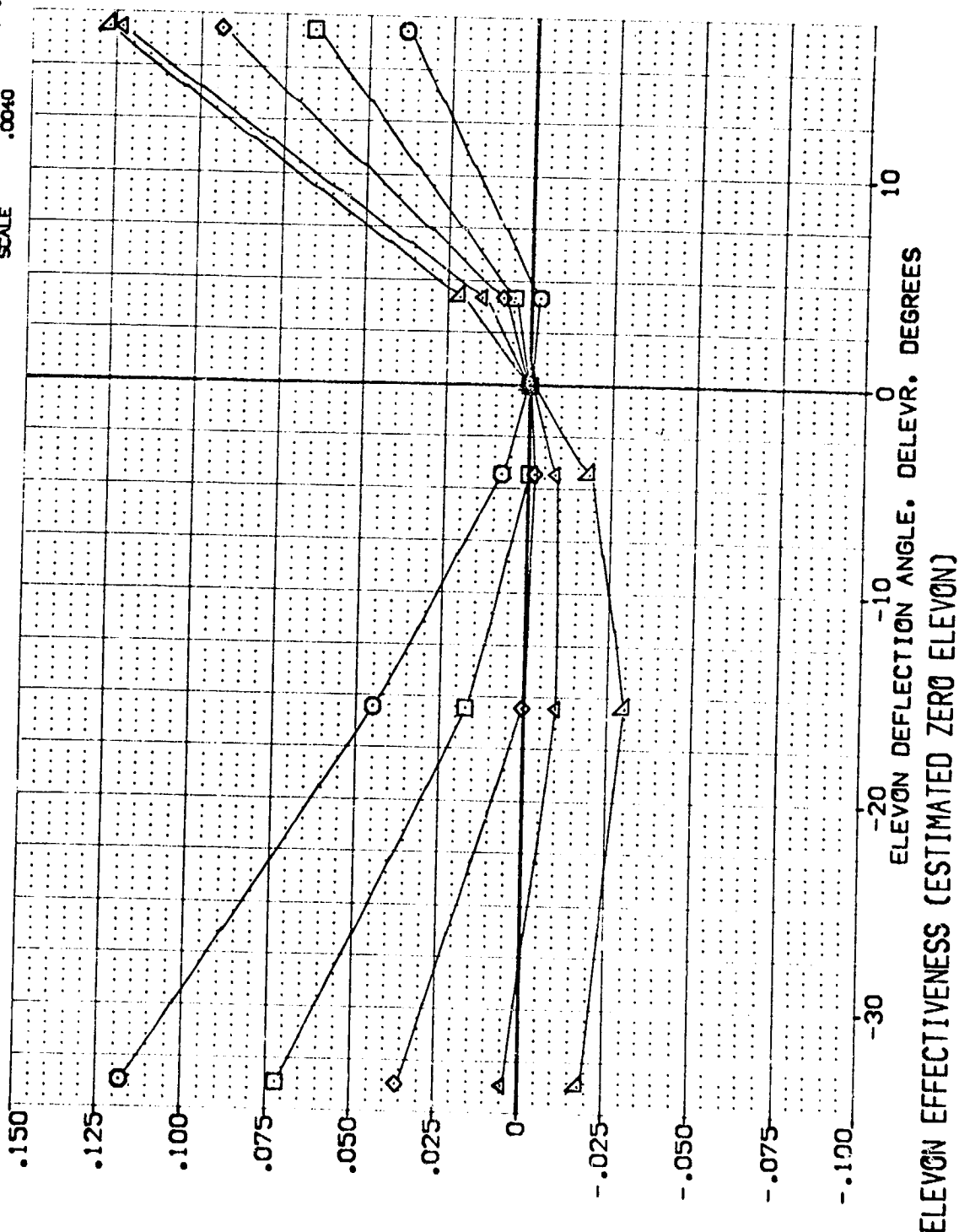
DATASET
59A117
592A03
592A04
592A05

DELEVR
-23.840
-4.310
4.160
16.750

SREF
LREF
BREF
XMRP
YMRP
ZMRP
SCALE

REFERENCE INFORMATION
2741.8000
481.6480
936.7000
1081.3300
.0000
.0000
.0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCQ

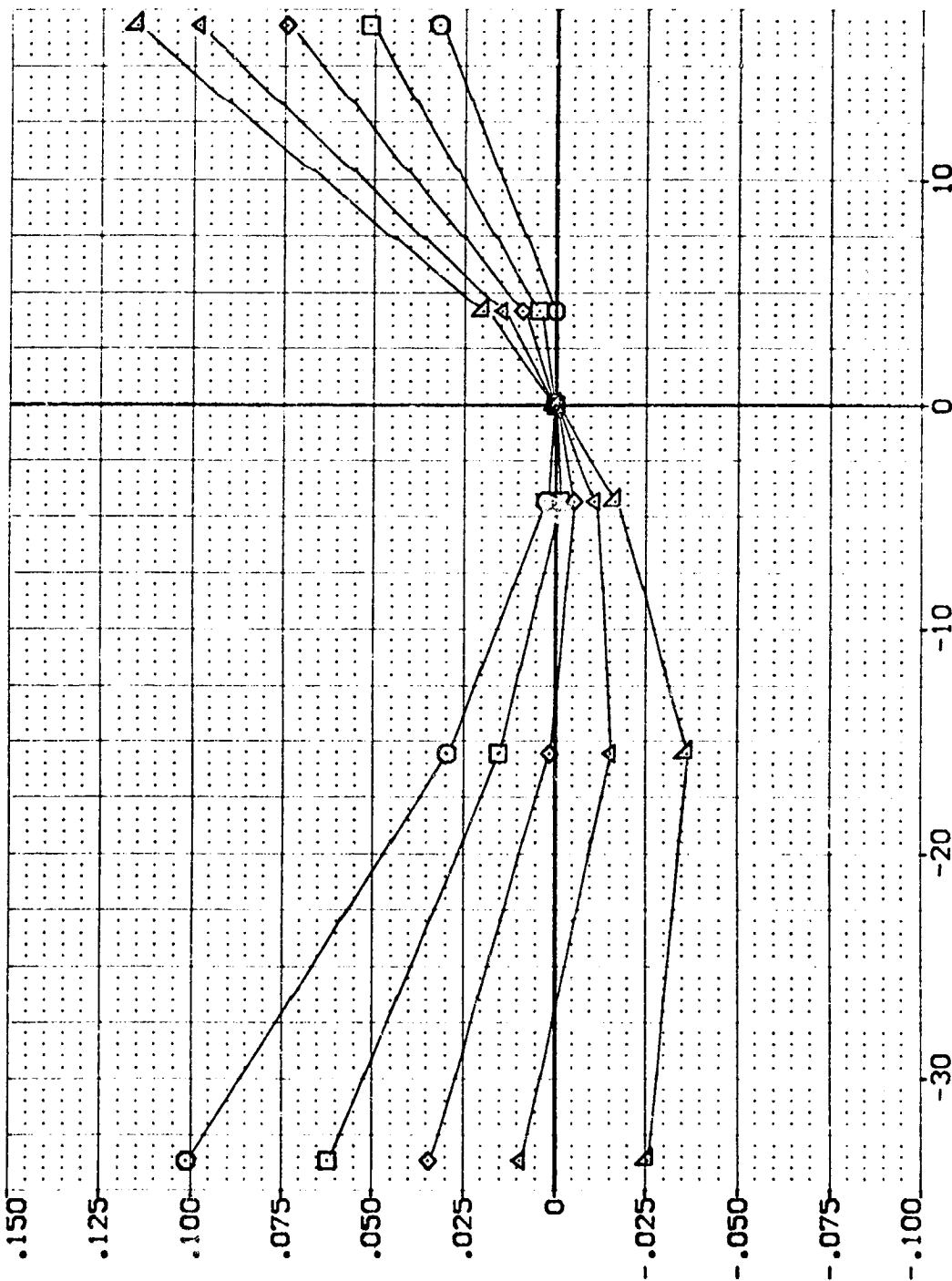


SYMBOL
 ○ □ ◇ △

PARAMETRIC VALUES
 ALPHA .000
 MACH 5.000
 SPOBRK 25.550
 BETA .000
 CONF16 1.000

DATA SOURCE
 DELEVR -11.700
 DATASET 592A01
 DELEVR -33.650
 DATASET 592A02
 DELEVR -15.550
 DATASET 592A03
 DELEVR .000
 DATASET 592A04
 DELEVR 13.130
 DATASET 592A05
 DELEVR 13.130

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 536.7000
 XPRP 1081.3900
 YPRP .0000
 ZPRP .0000
 SCALE .0040



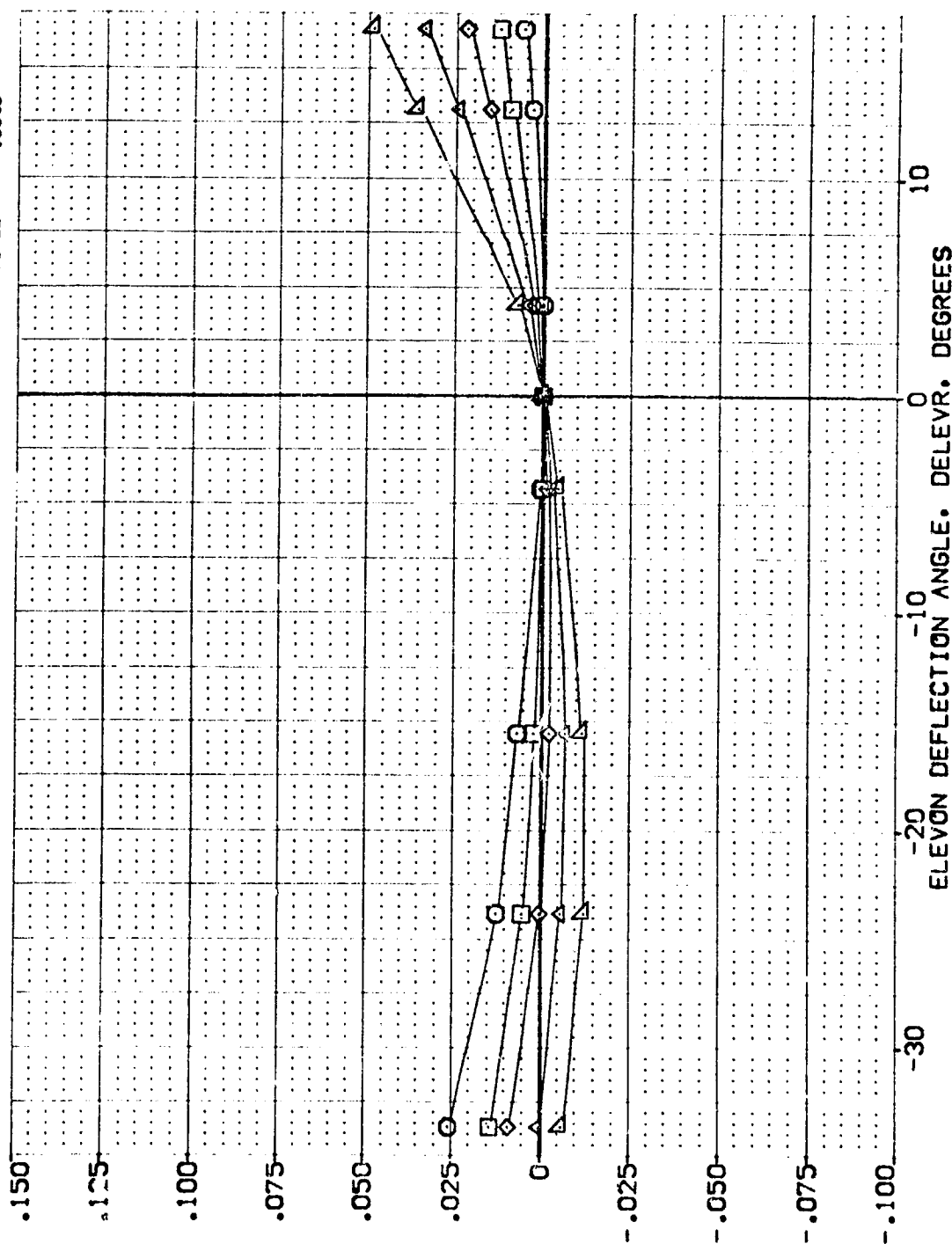
INCREMENTAL CHANGE IN DRAG COEFFICIENT, C_{LCD}

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) GRB 34-0 (BCFM) (WE)(VR) (592A01)

SYMBOL
 ○ □ ◇ △ ▴

PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
ALPHA	MACH	SPDRK	BOFLAP	-11.700	DATASET	DELEVR	SREF	2741.8000	59. FT
.000					592A01	-33.650	LREF	491.6480	IN.
5.000					592A02	-15.550	BREF	936.7000	IN.
10.000					592A04	13.130	XREF	1081.3000	IN.
15.000					59A107		YREF	0.0000	IN.
20.000							ZREF	0.0000	IN.
							SCALE	.0010	



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVEN)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR)

[592A01]

Symbo

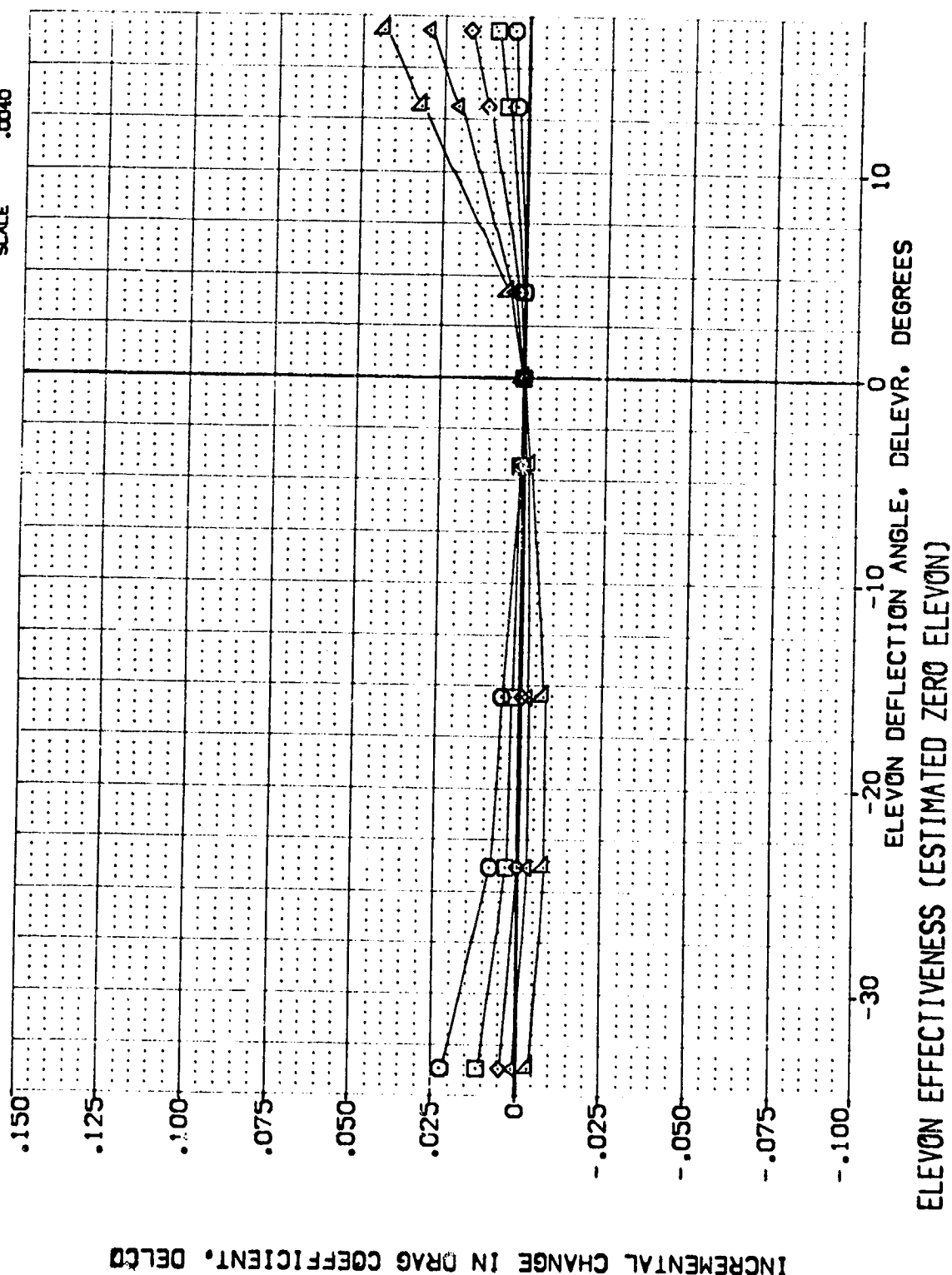
ALPHA
5.000
10.000
15.000
20.000

MACO	4.950	BECLAP
SPOBKK	25.550	ATILRN
BETA	.000	RUDDER
CONFIG	1.000	

	DATA SOURCE
-11.700	DELEVR
-.320	592A01
.000	592A02
	59AX04
	59A107
	13.130

DATASET	DELEVR	SREF	LREF	BREF	XTRP	YTRP	ZTRP	SCALE
59A117	-23.840							
592A03	-4.310							
592A04	4.160							
592A05	16.790							

REFERENCE INFORMATION	
	SQ. FT
2741	8000
481	6480
926	7000
1081	3500
	0000
	0000
	0040



PAGE 426

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592A01)

SYMBOL
 ○ □ ◇ △

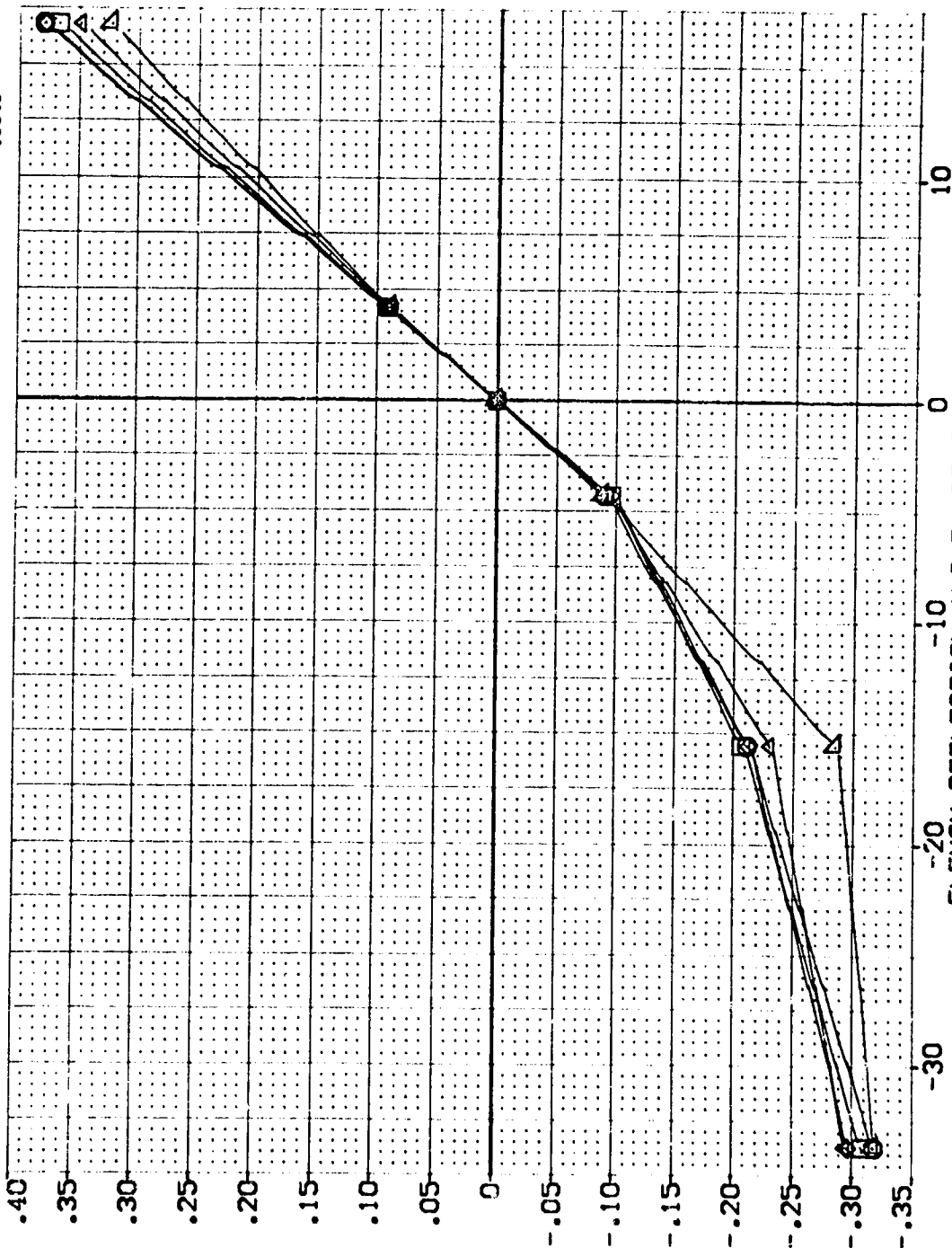
PARAMETRIC VALUES
 MACH .600
 SPOBRK 25.550
 BETA .000
 CONF16 1.000

DATA SOURCE
 DELEVR -11.700
 DATASET 592A01
 592A02
 592A04
 592A05

DELEVR -23.840
 DATASET 59A117
 592A03
 592A04
 592A05

REFERENCE INFORMATION
 SREF 2741.6000
 LREF 481.6480
 BREF 956.7000
 YPRP 1081.3500
 ZPRP .0000
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR)

(592A01)

SYMBOL
 ○ □ ◇ △ ▽

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

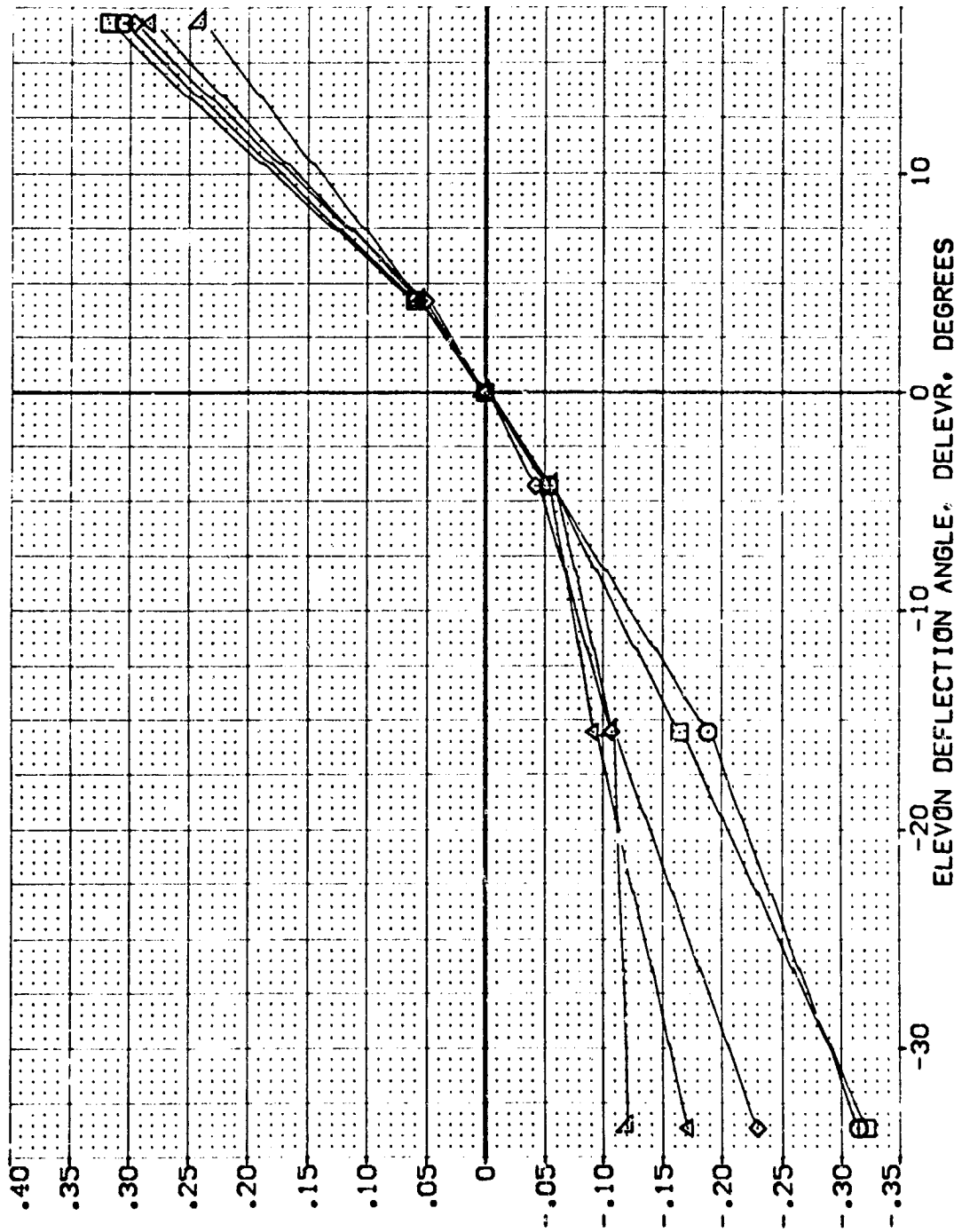
PARAMETRIC VALUES
 MACH .900
 SPDRK 25.550
 BETA .000
 CONFIG 1.000

DATA SOURCE
 -11.700
 -33.650
 -15.550
 13.130

DATASET
 592A01
 592A02
 592A04
 592A07

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XREF 1081.3000
 YREF .0000
 ZREF .0000
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) GRB 34-0 (BCFM) (WE)(VR) (592A01)

SYMBOL
 □ ◇ △ ▽

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

MACH
 SPDRK
 BETA
 CONF10

PARAMETRIC VALUES
 1.200
 25.500
 .000
 1.000

BOFLAP
 AILRON
 RUDDER

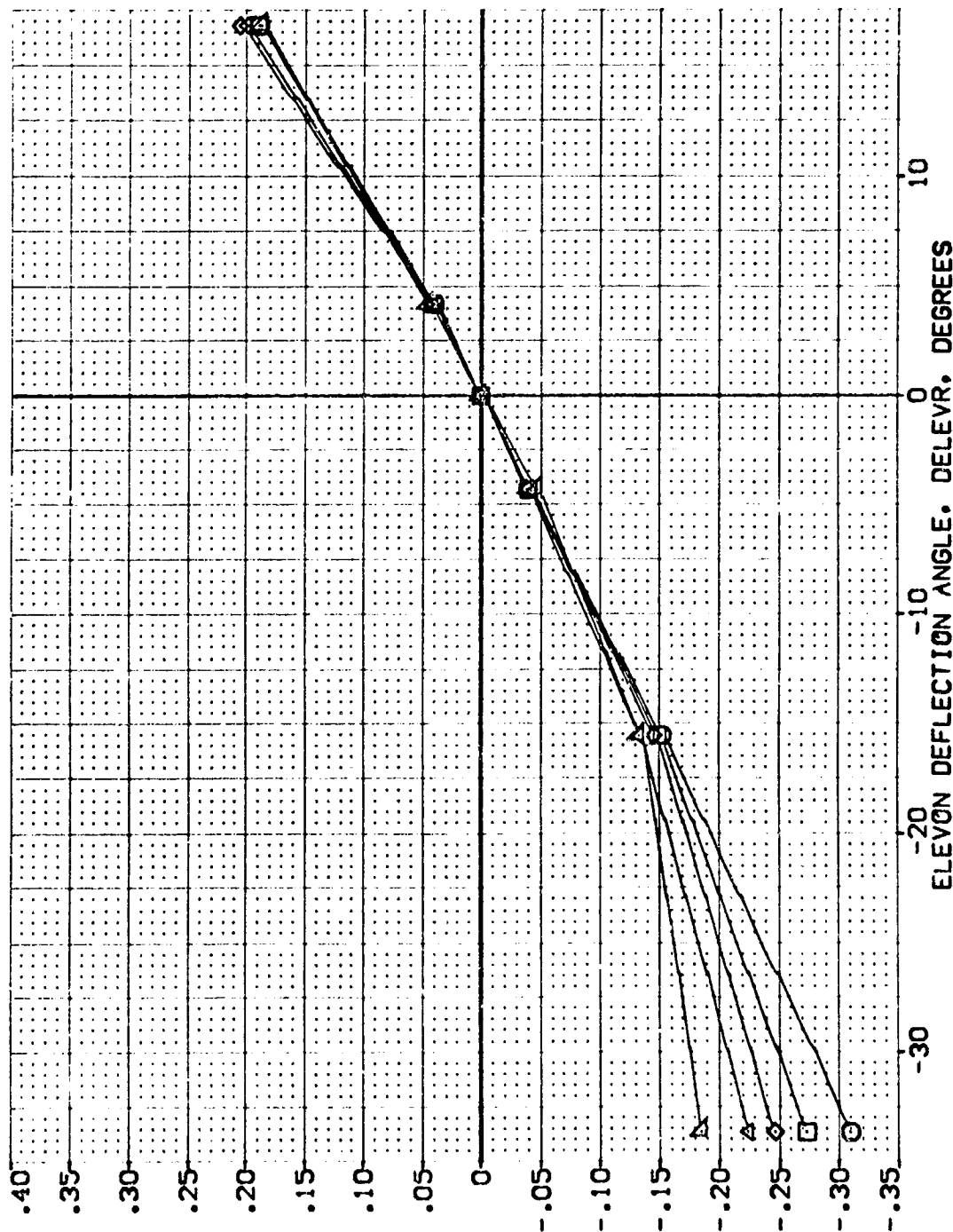
DATA SOURCE
 DELEVR
 -33.650
 -15.550
 .000
 13.130

DATASET
 59A117
 592A03
 592A04
 592A05

DELEVR
 -23.840
 -4.310
 4.160
 16.790

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XREF 1081.3500
 YREF .0000
 ZREF .0000
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVEN)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592A01)

SYMBOL
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ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 2.950
 SPOBRK 25.550
 BETA .000
 CNF10 1.000

DATA SOURCE
 DELEVR
 -11.700
 -33.650
 -15.550
 .000
 13.130

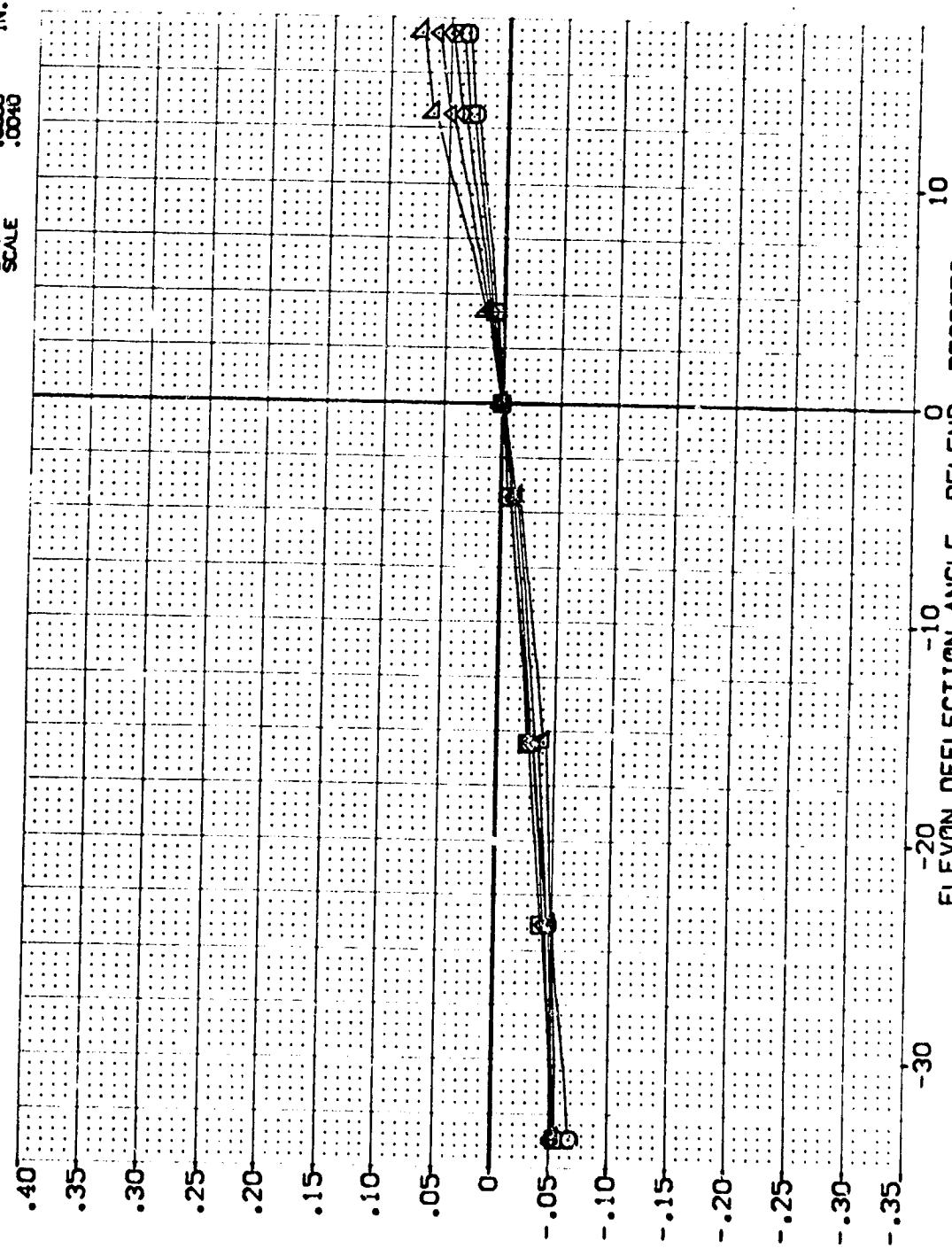
DATASET
 592A01
 592A02
 592A04
 592A05

DELEVR
 -23.840
 -4.310
 4.160
 16.750

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XREF 1081.3800
 YREF .0000
 ZREF .0040

SCALE
 SQ. FT
 IN.
 IN.
 IN.
 IN.
 IN.

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ELEVON DEFLECTION ANGLE, DELEVR, DEGREES
 ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592A01)

SYMBOL
 ○ □ ◇ △

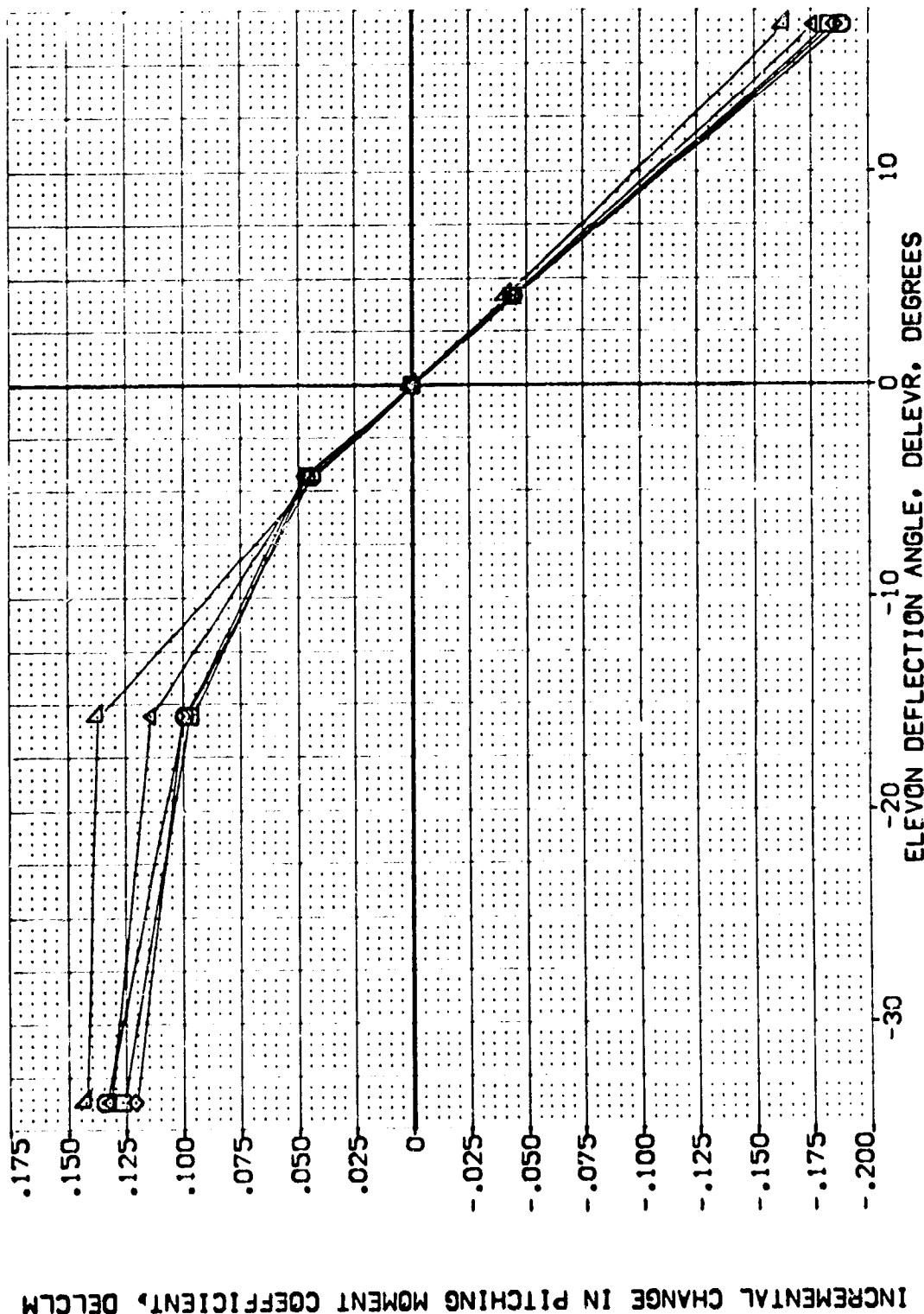
PARAMETRIC VALUES
 ALPHA .000
 MACH 5.000
 SPOBRK 25.550
 BETA 10.000
 CONF10 15.000
 CONF16 20.000

DATA SOURCE
 -11.700
 -320
 .000
 .000
 55.107

DATASET
 592A01
 592A02
 592A03
 592A04
 592A05

DELEVR
 -23.840
 -4.310
 4.150
 16.790

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XREF 1081.3900
 YREF .0000
 ZREF .0000
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR)

(592A01)

SYMBOL
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ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH .900
 SPOBRK 25.550
 BETA .000
 CONF16 1.000

DATA SOURCE
 -11.700
 -320
 .000
 .000
 59A107

DATASET
 592A01
 592A02
 59A104
 59A107

DELEVR
 -23.840
 -15.350
 .000
 13.130

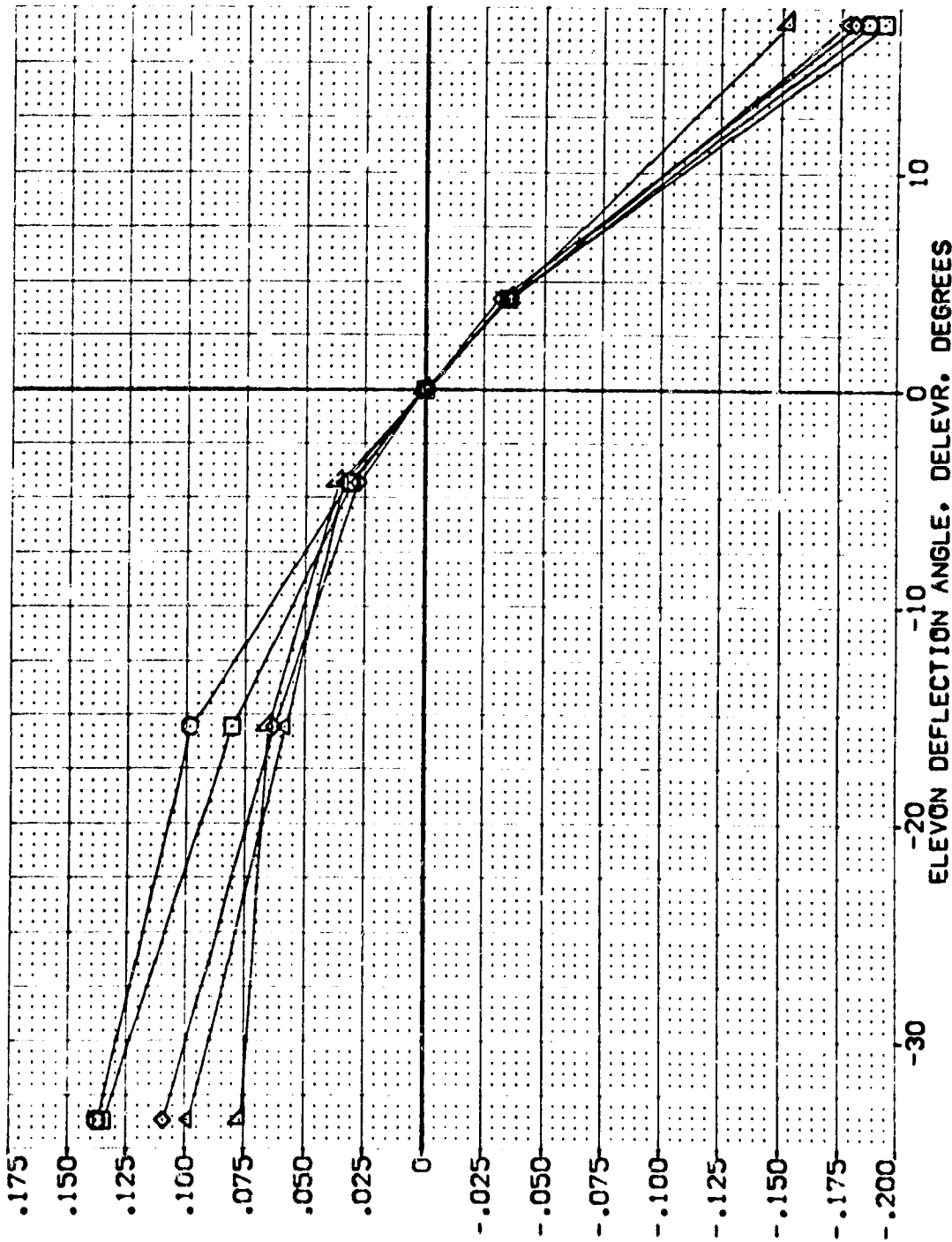
DATASET
 59A117
 592A03
 592A04
 592A05

DELEVR
 -23.840
 -4.310
 4.160
 16.750

SCALE

REFERENCE INFORMATION
 2741.8000
 481.6480
 826.7000
 1081.3500
 16.750
 .0000
 .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) OR8 34-0 (BCFM) (WE)(VR) (592A01)

SYMBOL
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△

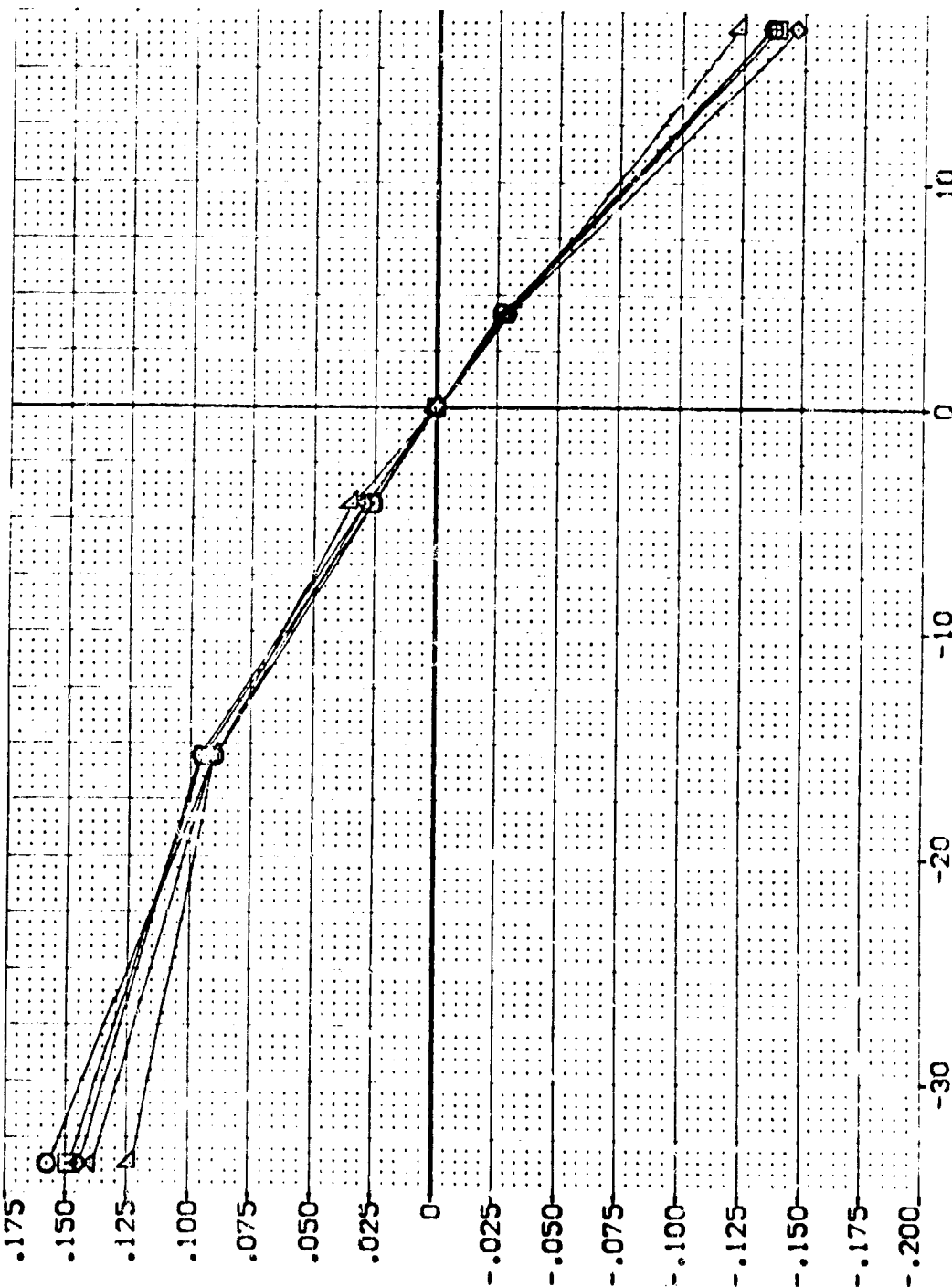
PARAMETRIC VALUES
MACH 1.200
SPTRON 25.550
BETA .000
CONF 1.000

DATA SOURCE
-11.700 DATASET
-0.000 592A01
.000 592A02
592A04
592A05

DATASET
59A117
592A03
592A04
592A05

DELEVR
-23.840
-4.310
4.150
16.750

REFERENCE INFORMATION
SREF 2741.8000
LREF 481.8480
BREF 936.7000
XREF 1081.3500
YREF 1.0000
ZREF 1.0000
SCALE .0040



INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

ELEVON DEFLECTION ANGLE, DELEVR, DEGREES
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

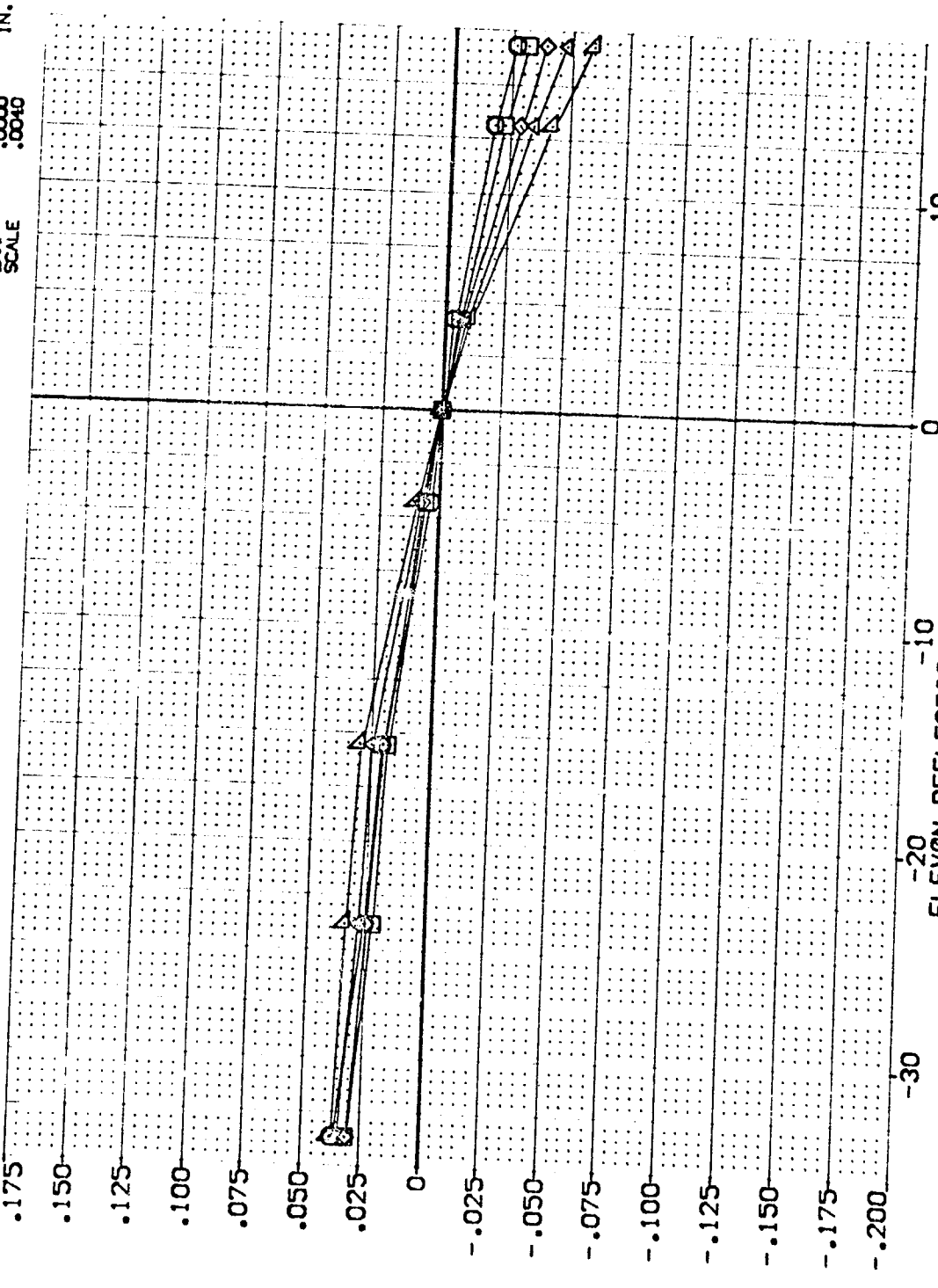


C-6

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592A01)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	BOFLAP	DELEVR	DELEVR	SREF
.000	2.000	-11.700	-33.650	-23.840	2741.8000
5.000	25.550	-.320	-15.550	-4.310	481.6480
10.000	.000	.000	.000	4.160	936.7000
15.000	1.000	59A107	13.130	16.790	1081.3900
20.000					.0000
					.0000
					.0040

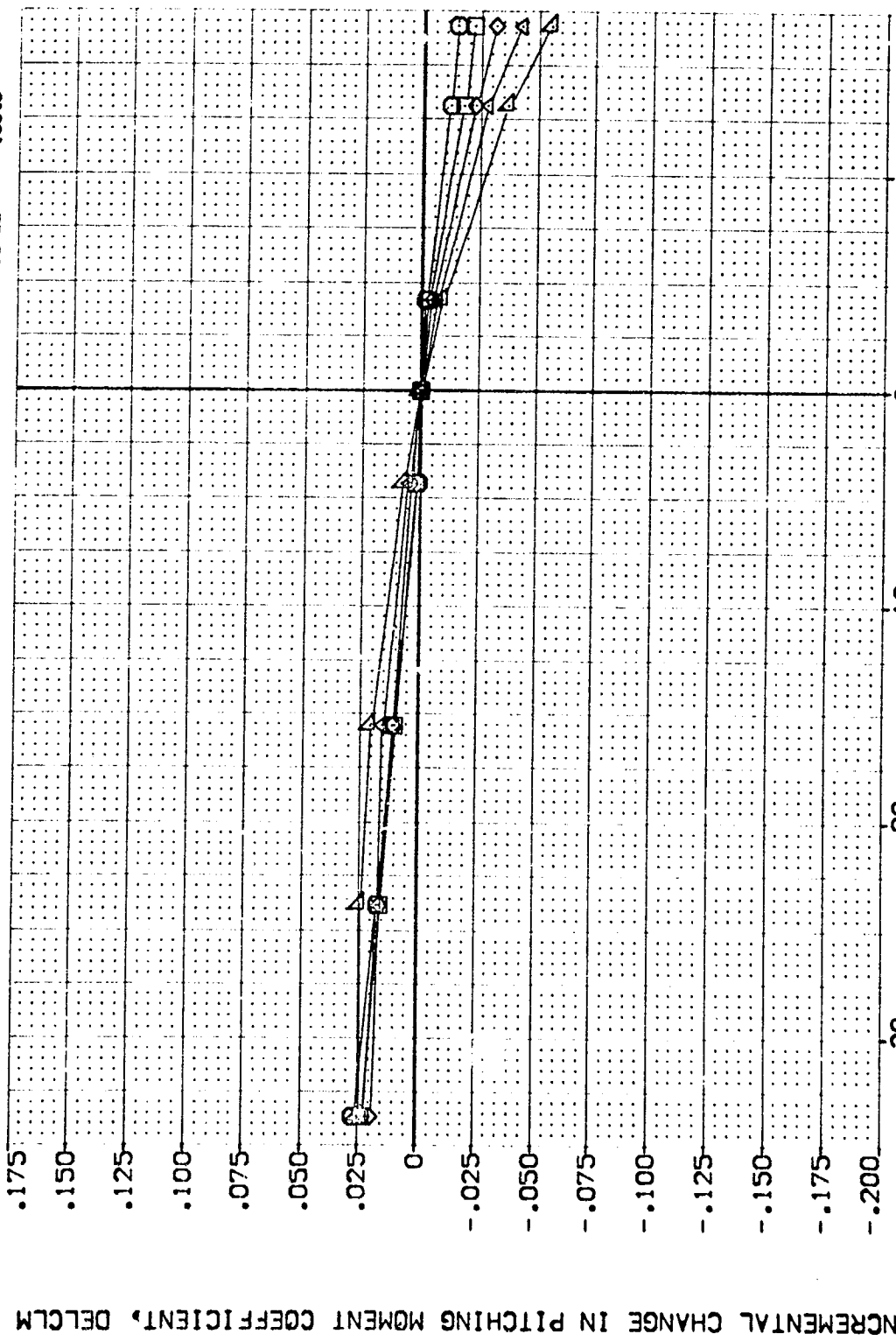
INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592A01)

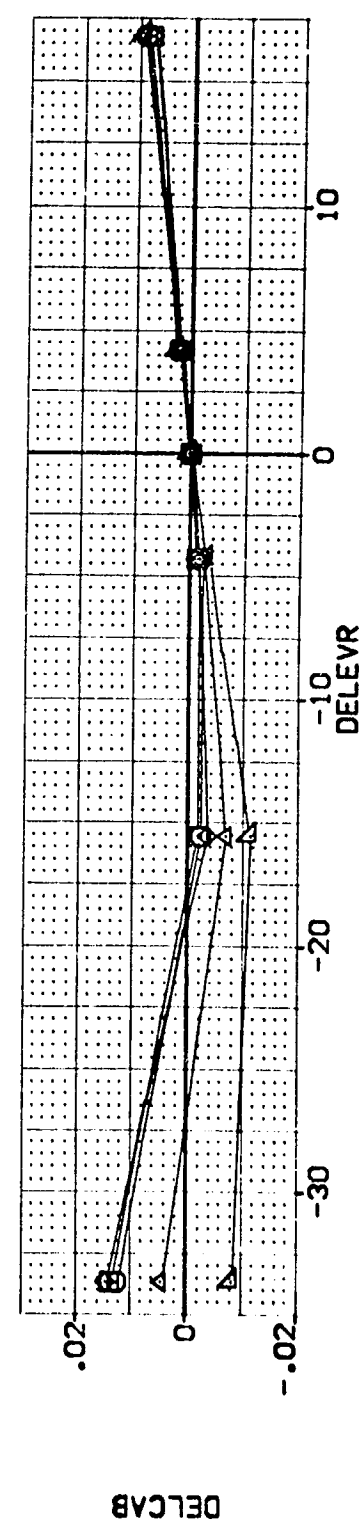
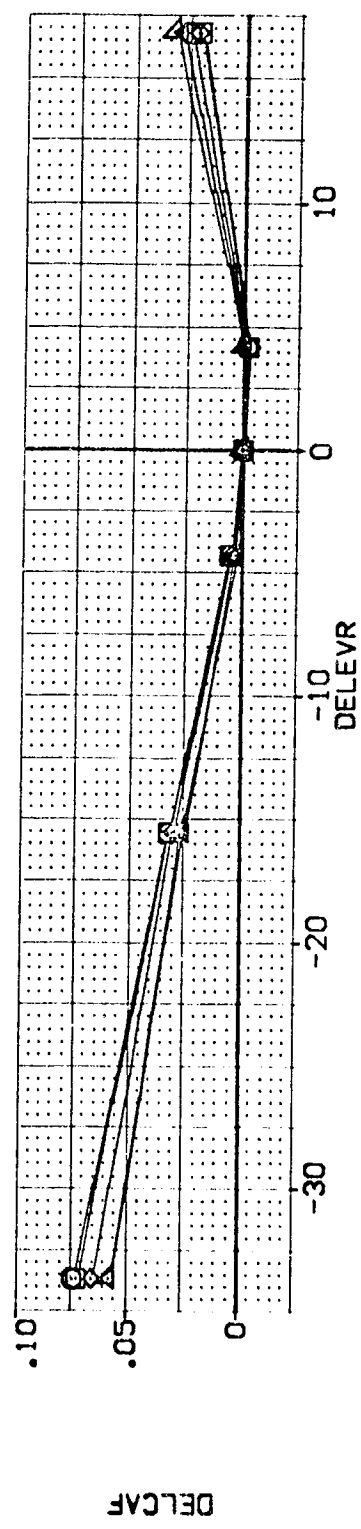
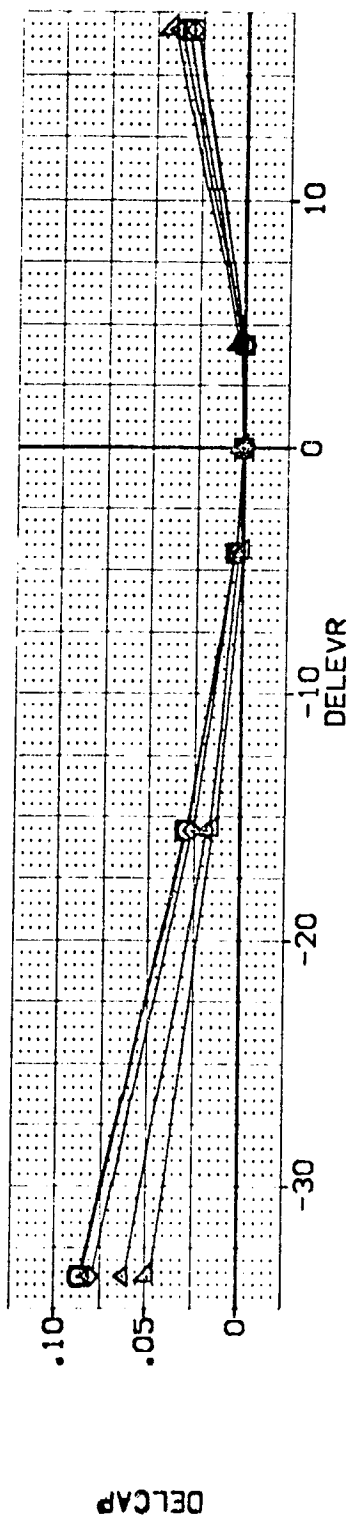
SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	-11.700	DATASET	DELEVR	DATA SOURCE	DATASET	DELEVR	SREF	REFERENCE INFORMATION
○	.000		4.950	BDCLAP	592A01	-39.650		59A117	-23.840	LREF	7741.8000
□	5.000		25.550	A1LRON	592A02	-15.550		592A03	-4.310	BREF	481.6480
◇	10.000		.000	RUDER	592A04	.000		592A05	4.150	XTRP	936.7000
△	15.000		1.000		59A107	13.130			16.750	YTRP	1081.3500
▽	20.000									ZTRP	.0000
										SCALE	.0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592A01)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELEVR	SREF	REFERENCE INFORMATION
0.000	MACH .600	-11.700	59A107	-23.840	2741.8000	IN: 2741.8000
5.000	SPOBRK 25.550	-320	592A01	-4.310	481.6480	IN: 481.6480
10.000	BETA .000	.000	592A02	4.160	936.7000	IN: 936.7000
15.000	CONF16 1.000	.000	59A104	16.790	1081.3900	IN: 1081.3900
20.000		13.130	592A05		.0000	IN: .0000
					.0040	IN: .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR)

(592A01)

SYMBOL
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ALPHA
.000
5.000
10.000
15.000
20.000

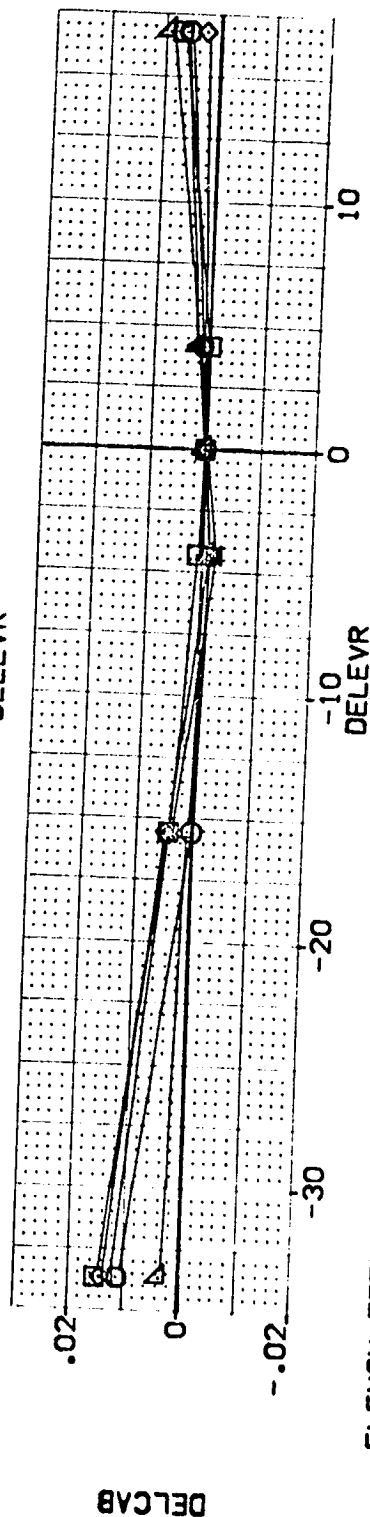
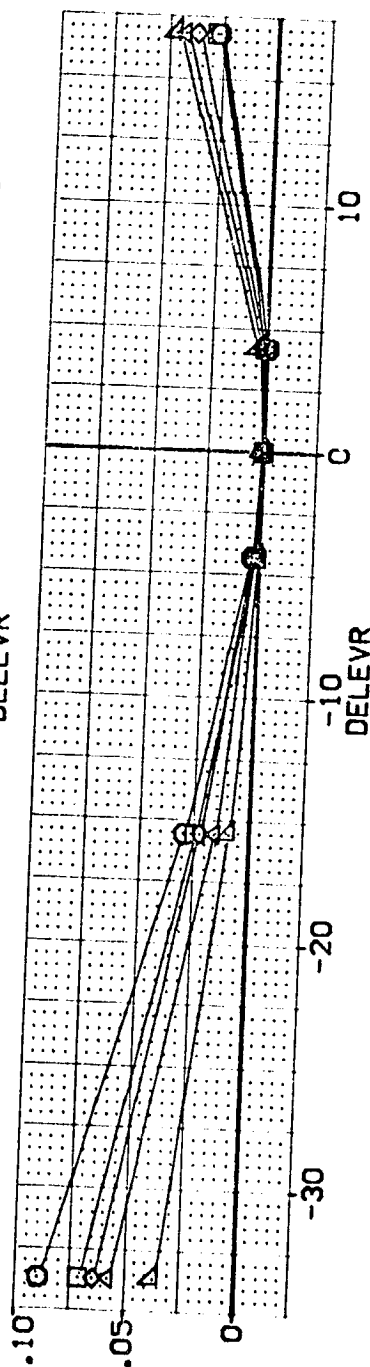
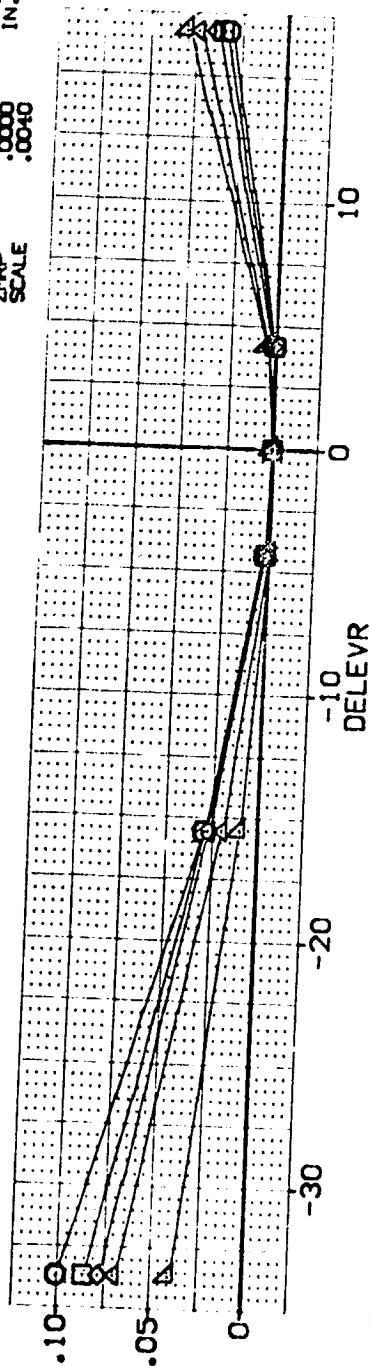
PARAMETRIC VALUES
MACH 1.200
SPDRBK 25.550
BETA .000
CONF16 1.000

DATA SOURCE
DELEVR
-11.700
-33.650
-15.550
13.130

DATASET
59A117
592A01
592A02
59A107

DELEVR
-23.840
-4.310
4.160
16.750

REFERENCE INFORMATION
SREF 2741.8000
LREF 481.6480
BREF 936.7000
XPRP 1081.3900
YPRP .0000
ZPRP .0000
SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

SYMBOL
 ○ □ ◇ △

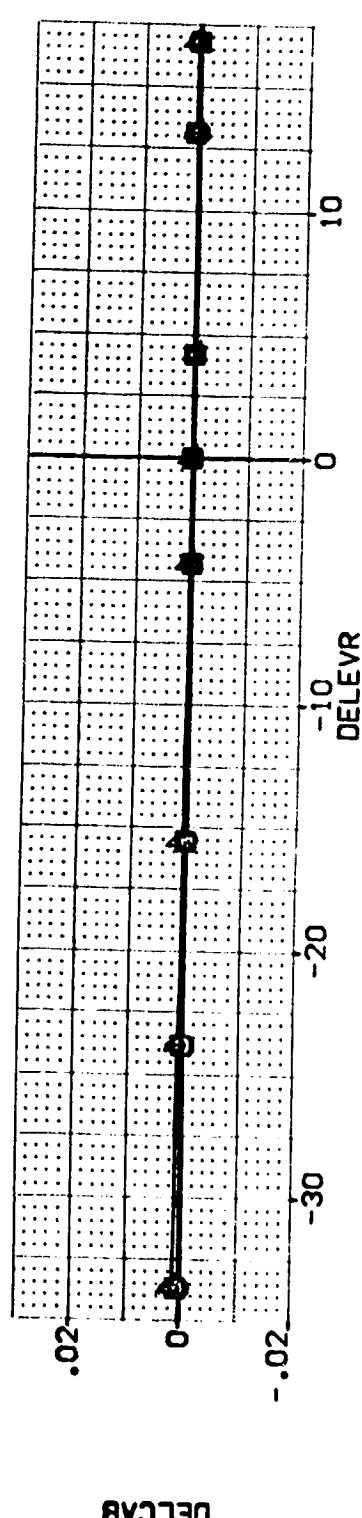
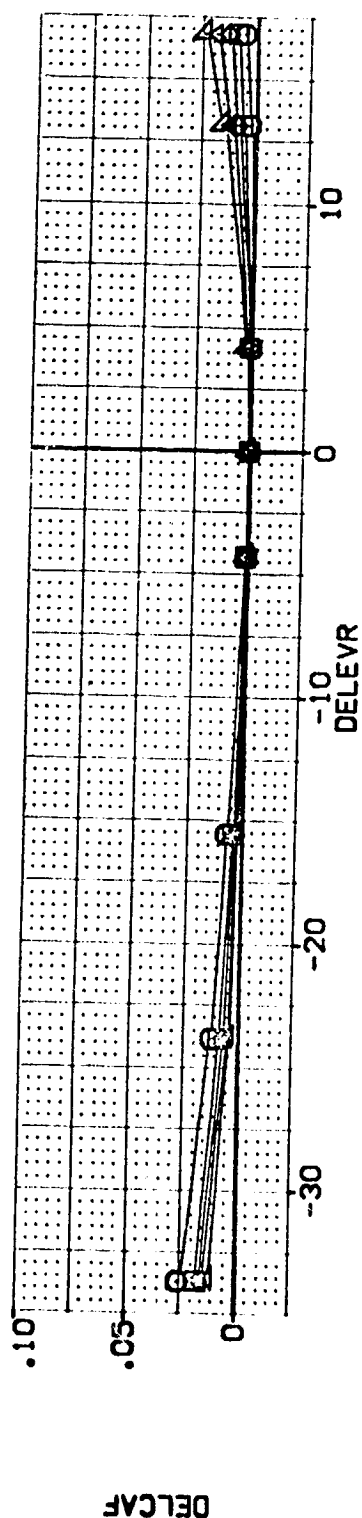
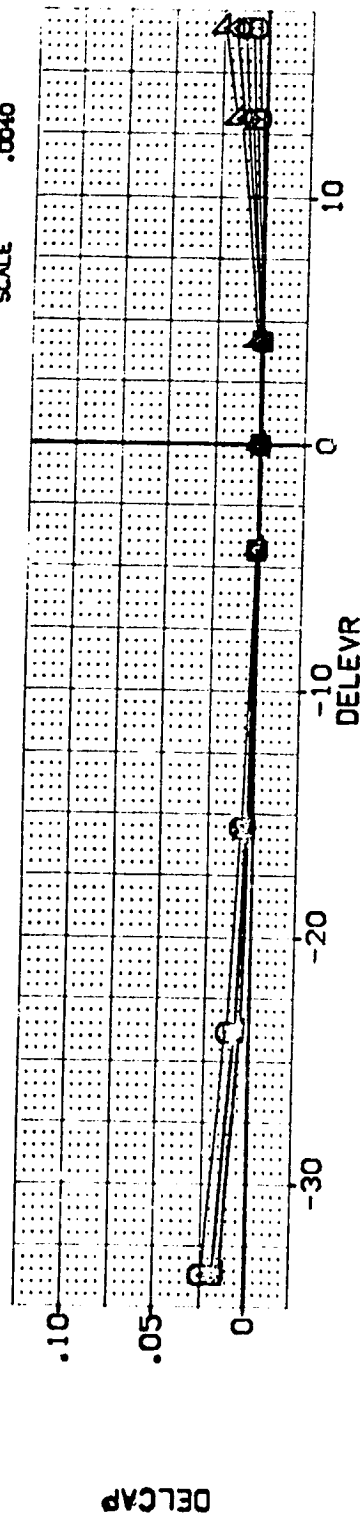
ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 2.950
 SPOBRK 25.550
 BETA .000
 CONVIG 1.000

DATA SOURCE
 -11.700
 -320
 .000
 .000
 13.130

DATASET
 59A117
 592A03
 592A04
 592A05

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (592A01)

SYMBOL
 7▷◇□
 10.000
 15.000
 20.000

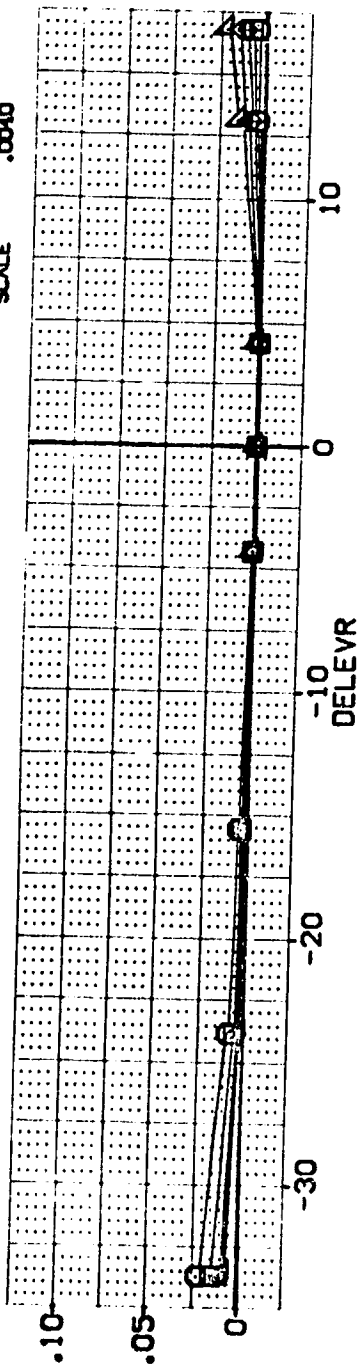
PARAMETRIC VALUES
 MACH 4.500
 SPOBRK 25.550
 BETA .000
 CONF18 1.000

DATA SOURCE
 DELEVR -11.700
 DATASET -320
 592A01
 592A02
 59A004
 59A107

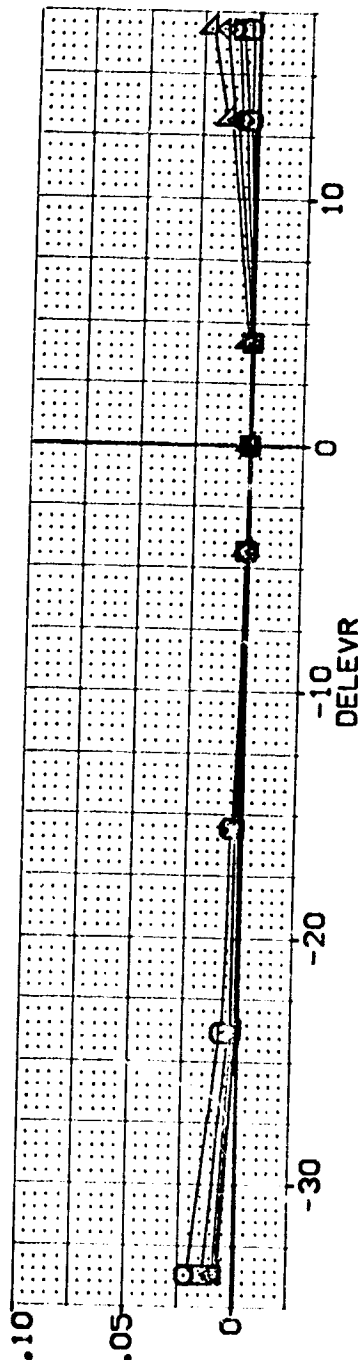
DELEVR -29.840
 DATASET 59A117
 592A03
 592A04
 592A05

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XPRP 1081.3900
 YPRP .0000
 ZPRP .0000
 SCALE .0040

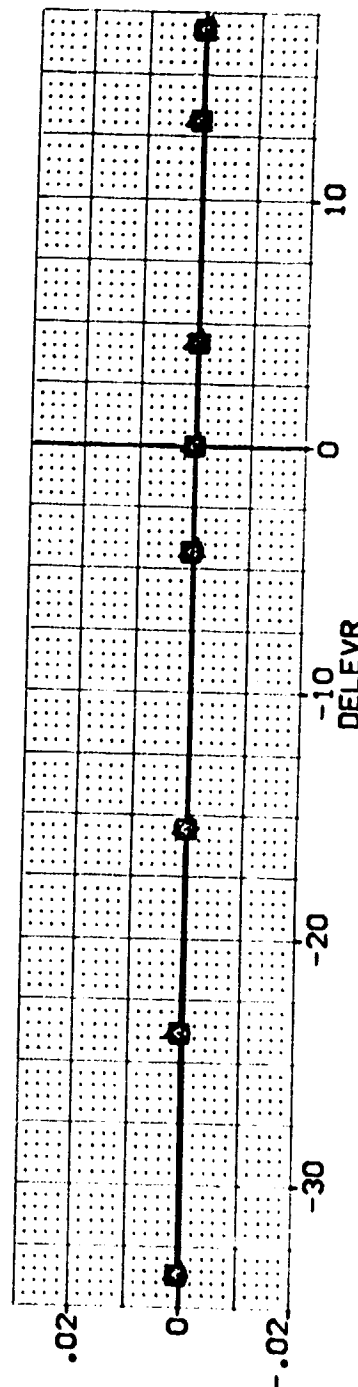
DELCAP



DELCAP



DELCAB



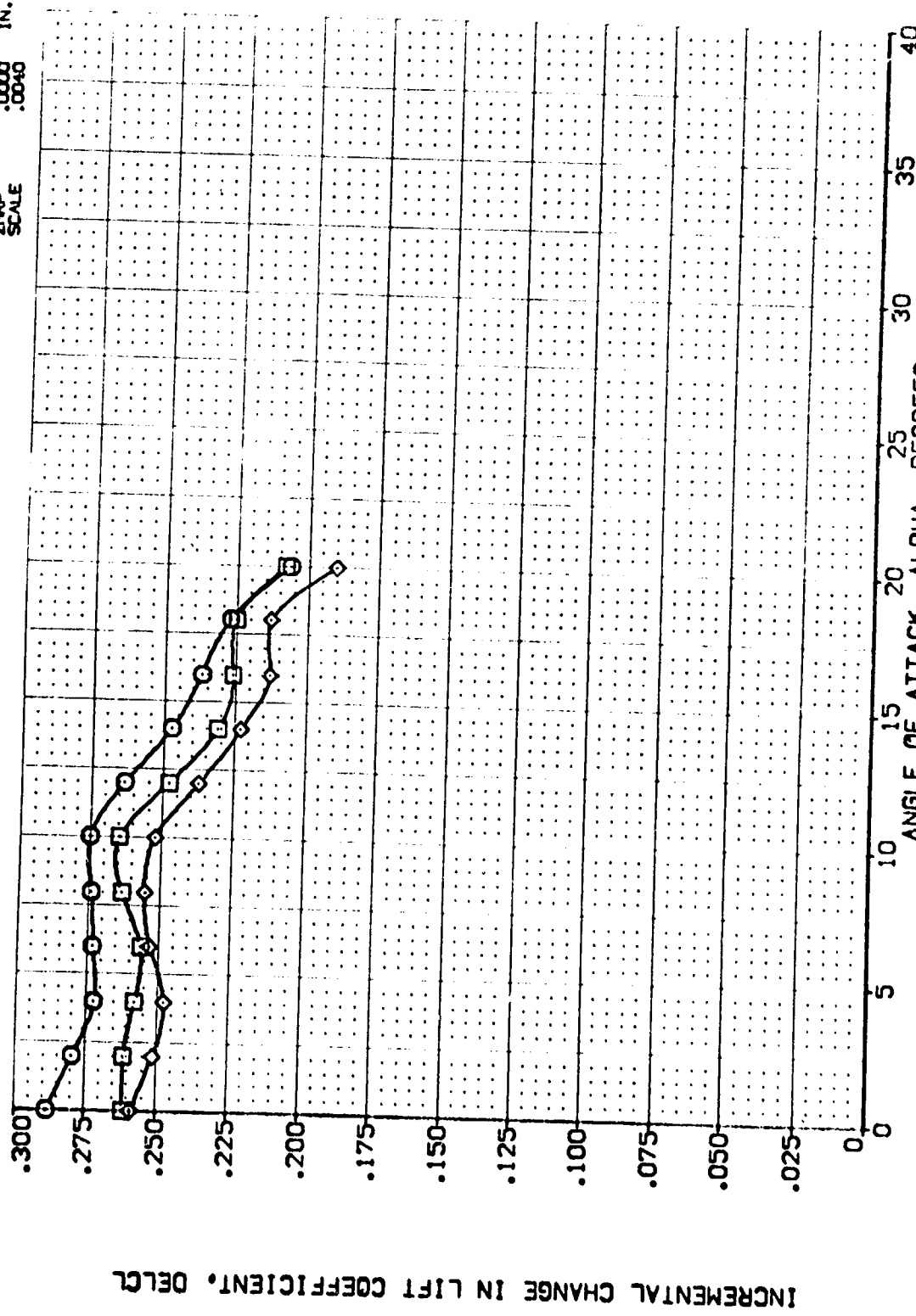
ELEVON EFFECTIVENESS (ESTIMATED ZERO ELEVON)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(M2005)	MSFC 581(OA45) 078 34-0 (BOFH) (VE)(VR)
(M2008)	MSFC 581(OA45) 078 34-0 (BOFH) (VE)(VR)
(M2116)	MSFC 581(OA45) 078 34-0 (BOFH) (VE)(VR)
(M22107)	DATA NOT AVAILABLE
(M22017)	DATA NOT AVAILABLE

DELEV R BOFLAP SPDRK AILZON REFERENCE INFORMATION

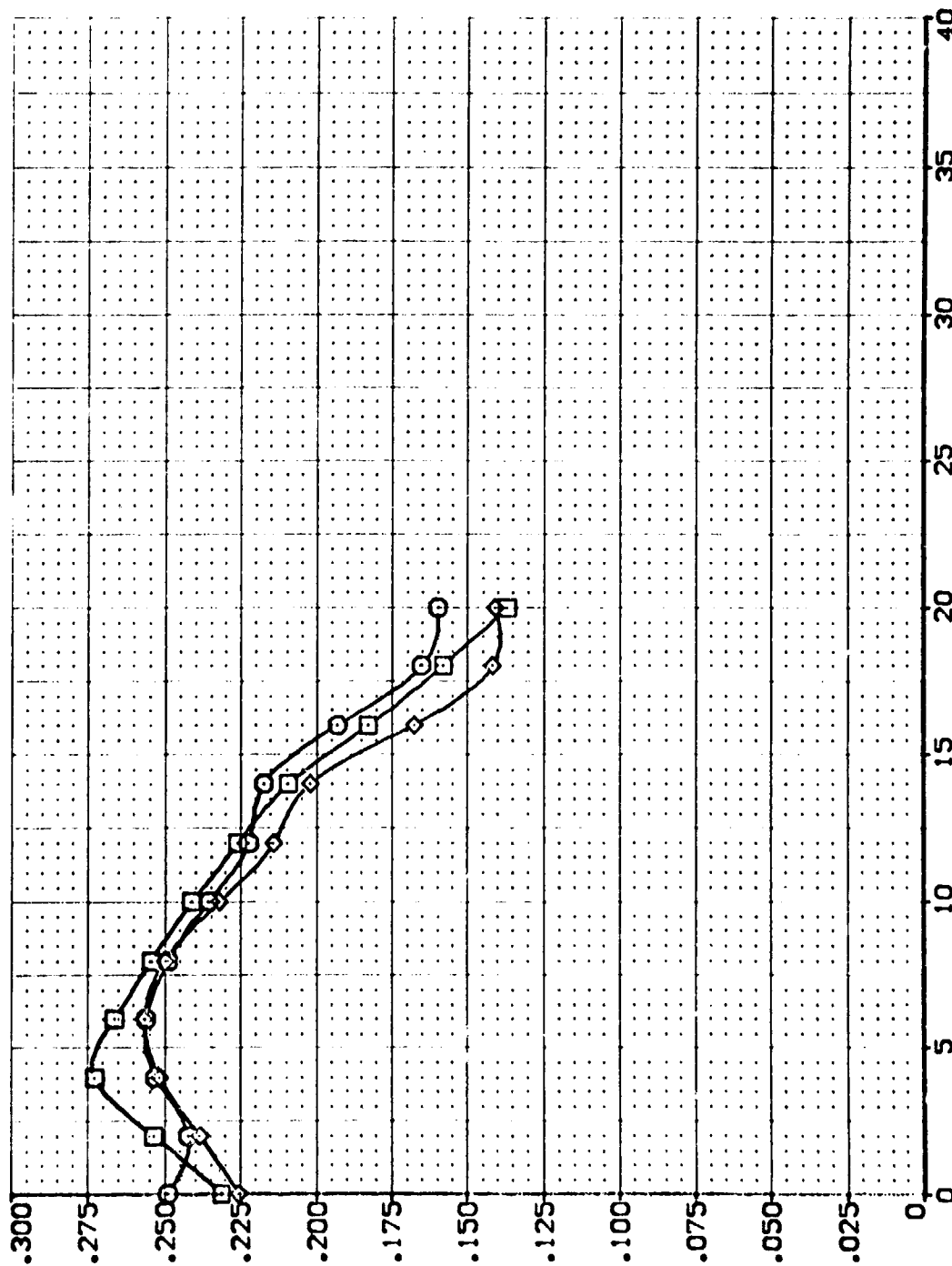
12.630	-11.700	25.550	-1.680	SREF	2741.8000	59. FT
12.630	16.300	25.550	-1.680	LREF	481.6480	IN.
12.630	22.600	25.550	-1.680	BREF	336.7000	IN.
8.970	-11.700	25.550	-1.650	XMRP	1081.3500	IN.
8.970	16.300	25.550	-1.650	YMRP	.0000	IN.
				ZMRP	.0000	IN.
				SCALE	.0040	



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)
(A)MACH = .60

DATA SET SYMBO. CONFIGURATION DESCRIPTION

DATA SET SYMBO.	CONFIGURATION DESCRIPTION	DELEV	BDCLAP	SPDBKX	AILRON	REFERENCE INFORMATION
[M2005]	MSFC 581(CA49) 053 34-0 (BDFM) (VE)(VR)	12.630	-11.700	25.550	-1.680	SREF 2741.8000 SQ. FT
[M2023]	MSFC 531(CA49) 053 34-0 (BDFM) (VE)(VR)	12.630	16.300	25.550	-1.680	LREF 481.6480 IN.
[M2116]	MSFC 531(CA49) 053 34-0 (BDFM) (VE)(VR)	12.630	22.600	25.550	-1.680	BREF 936.7000 IN.
[M2107]	DATA NOT AVAILABLE	8.970	-11.700	25.550	-1.650	XREF 1081.3500 IN.
[M2017]	DATA NOT AVAILABLE	8.970	16.300	25.550	-1.650	YREF .0000 IN.
						ZREF .0040 IN.



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(B)MACH = .90

CONFIGURATION DESCRIPTION

DATA SET SYMBOL

06.6.8
8.970
06.6.8
8.970
06.6.8
8.970
06.6.8
8.970

80FLAP
-11.700
16.300
22.500
-11.700
16.300

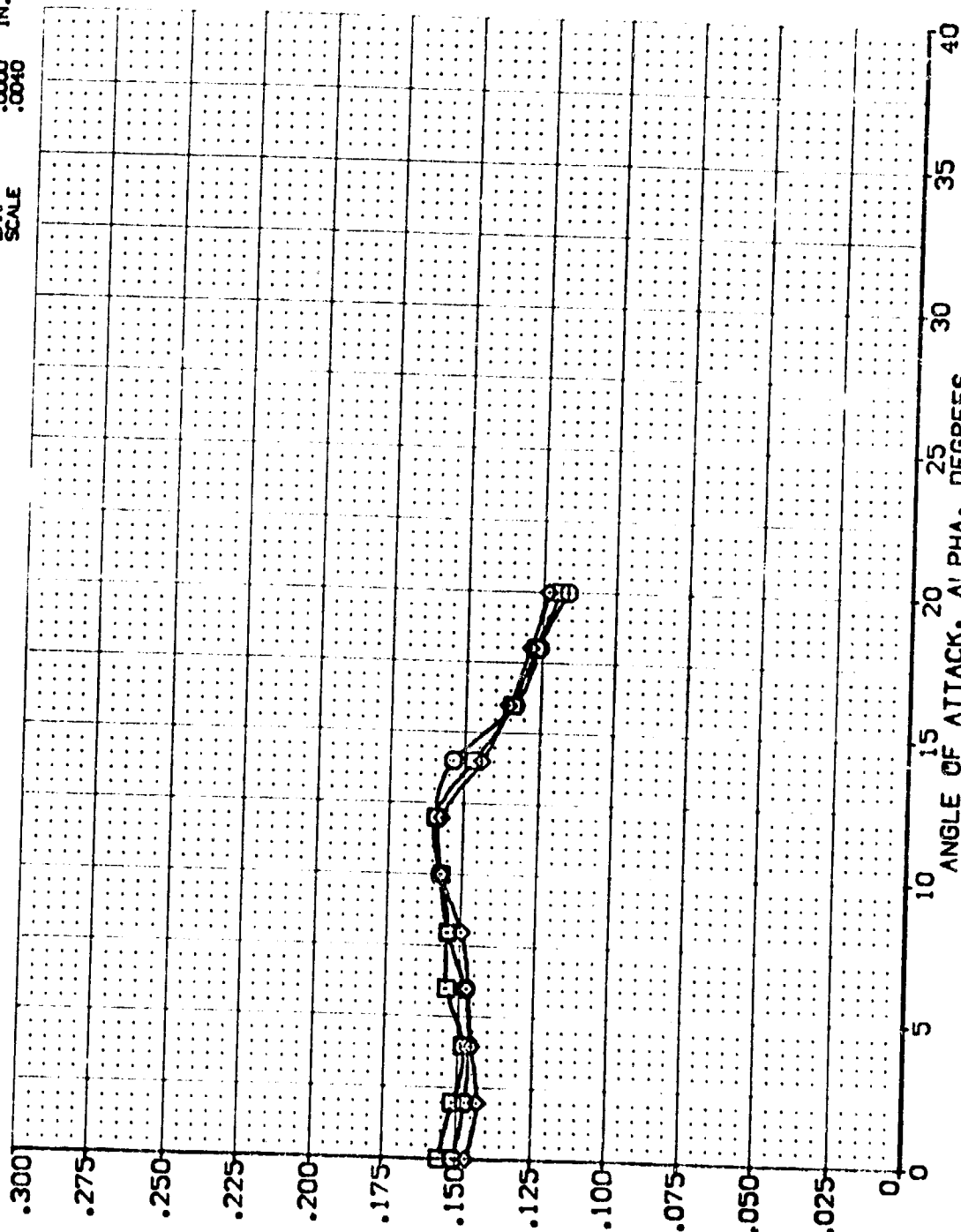
XEROX

AIRLON
 -1.680
 -1.680
 -1.680
 -1.650
 -1.650

REF
SREF
LREF
BREF
XREF
YREF
ZREF
SCALE

REFERENCE INFORMATION		
	7141.8000	52. FT
REF	481.8480	IN.
REF	936.7000	IN.
REF	1081.3900	IN.
REF	.0000	IN.
REF	.0000	IN.
REF	.0040	IN.

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA



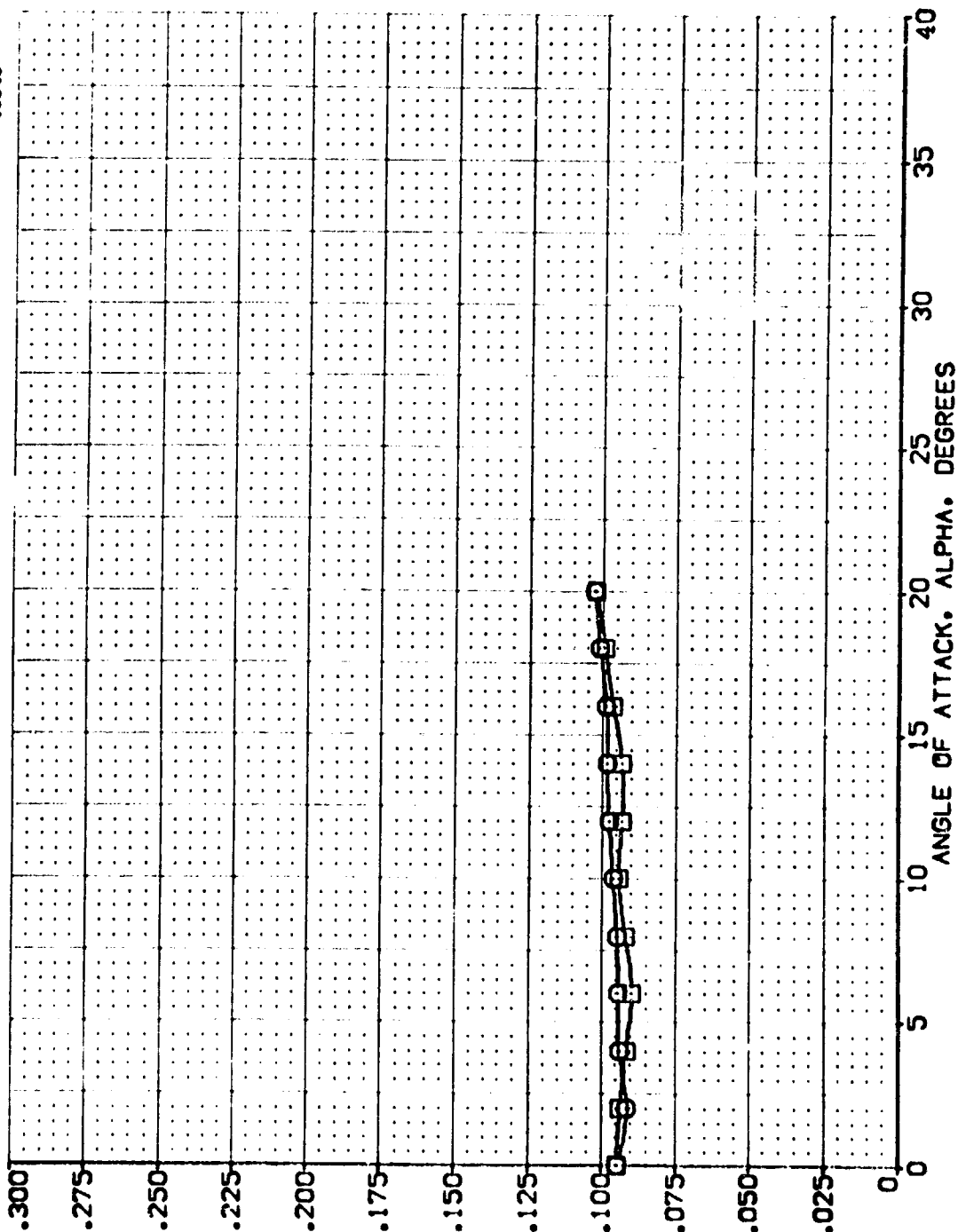
ANGLE OF ATTACK, ALPHA, DEGREES

$$\text{CJ MACH} = 1.19$$

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDFLAP	SPDRK	ALURON	SREF	LREF	BREF	XREF	YREF	ZREF	SCALE
MS2005	MS2C 501(OAS) 05B 34-0 (BDTH) (VE)(VR)	12.630	-11.700	23.550	-1.680	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040	
MS2008	MS2C 501(OAS) 05B 34-0 (BDTH) (VE)(VR)	12.630	16.300	23.550	-1.680							
MS2116	DATA NOT AVAILABLE	12.630	22.600	23.550	-1.680							
MS2107	DATA NOT AVAILABLE	8.970	-11.700	23.550	-1.680							
MS2017	DATA NOT AVAILABLE	8.970	16.300	23.550	-1.680							

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(O)MACH = 1.45

DATA SET SYMBO. CONFIGURATION DESCRIPTION

MSFC 581(DA19) CR3 34-0 (BDTH) (VE)(VR)
 MSFC 581(DA19) CR3 34-0 (BDTH) (VE)(VR)
 MSFC 581(DA19) CR3 34-0 (BDTH) (VE)(VR)
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE

DELTA CL
 12.630
 12.630
 12.630
 8.970

DELTA CL
 -11.700
 16.300
 22.600
 -11.700
 16.300

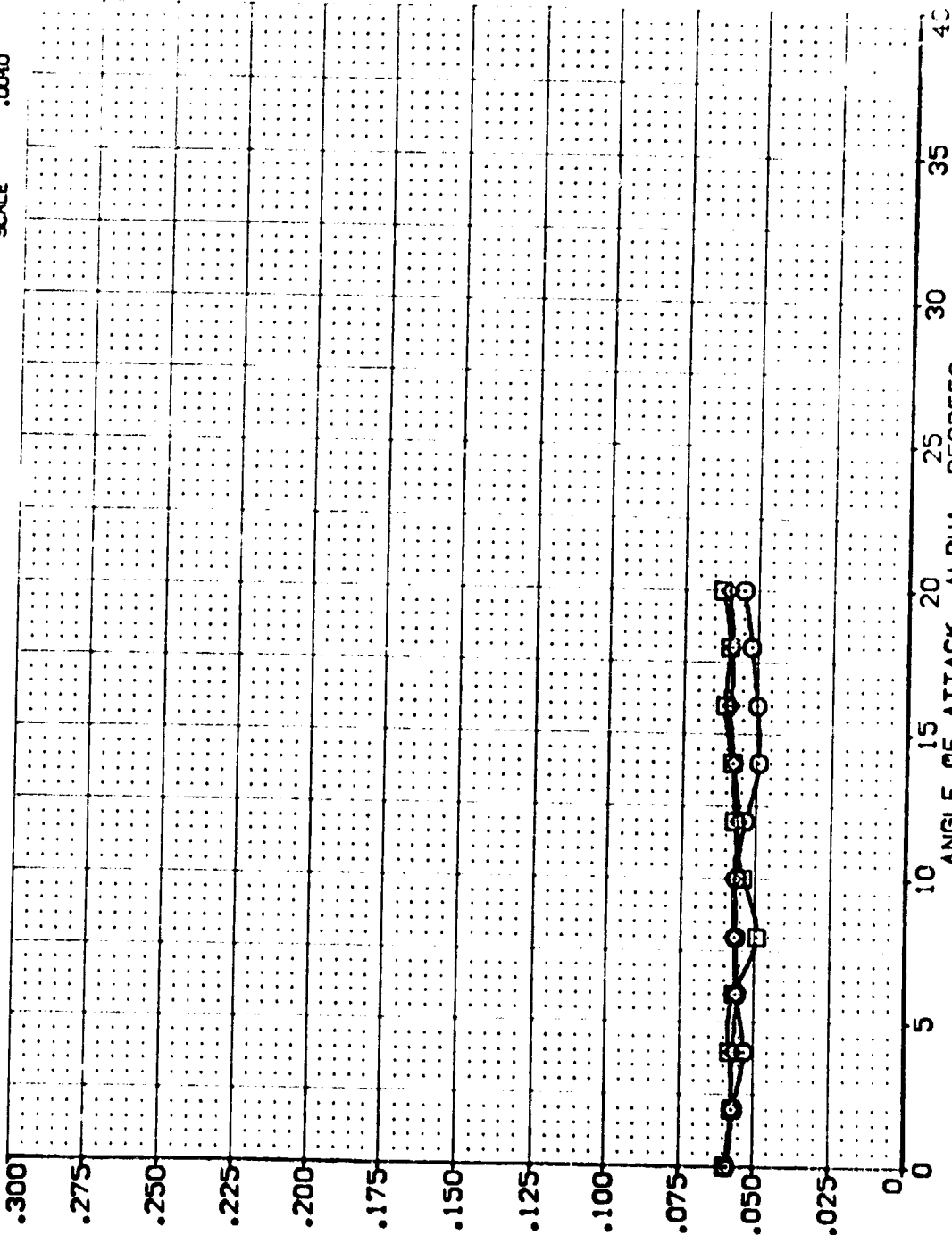
SPDRK
 25.550
 25.550
 25.550
 25.550
 25.550

AILRON
 -1.680
 -1.680
 -1.680
 -1.650
 -1.650

SCALE
 .0000
 .0000
 .0000
 .0000
 .0040

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 926.7000 IN.
 XREF 1081.3900 IN.
 YREF .0000 IN.
 ZREF .0000 IN.

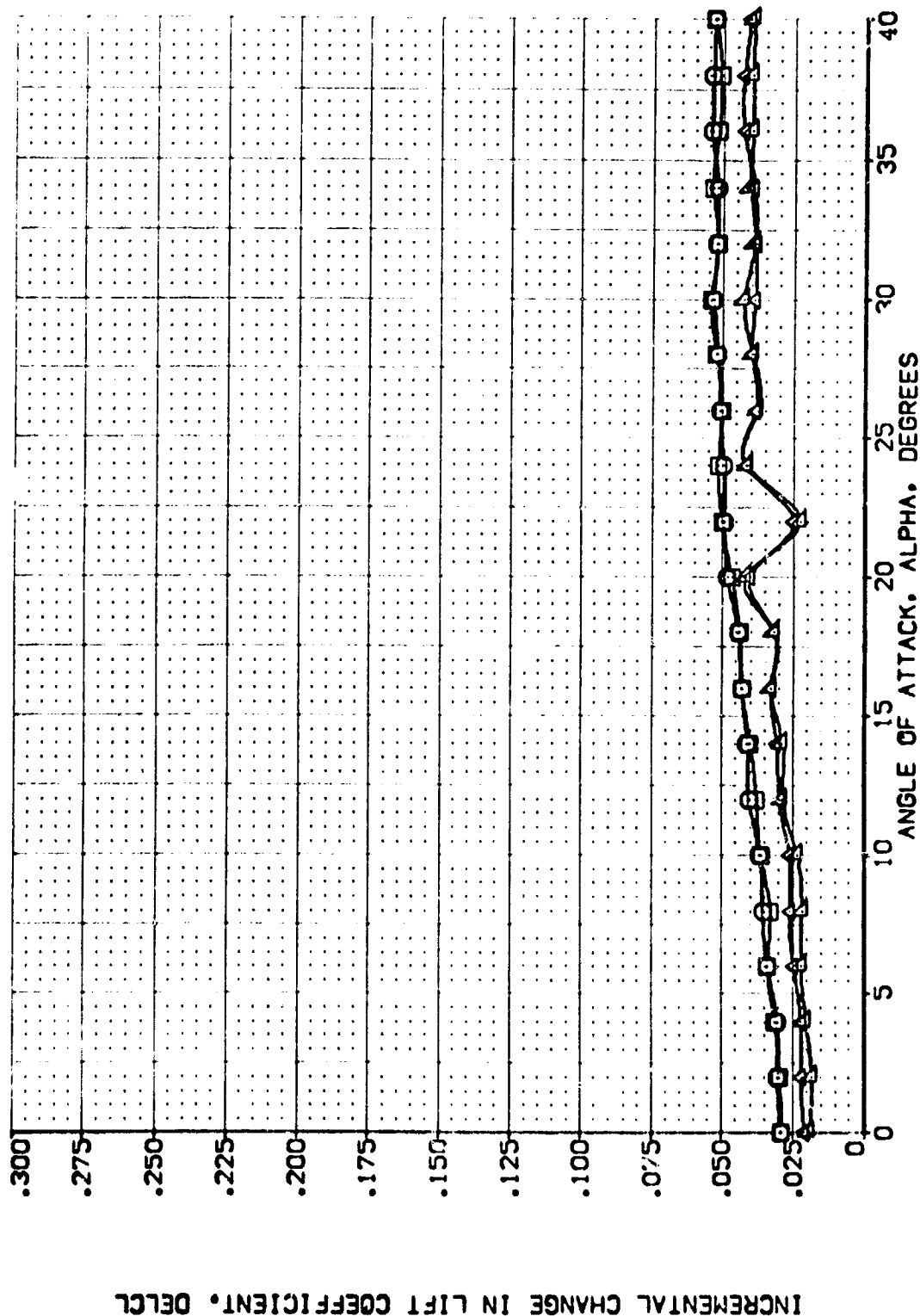


BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(C)MACH = 1.96

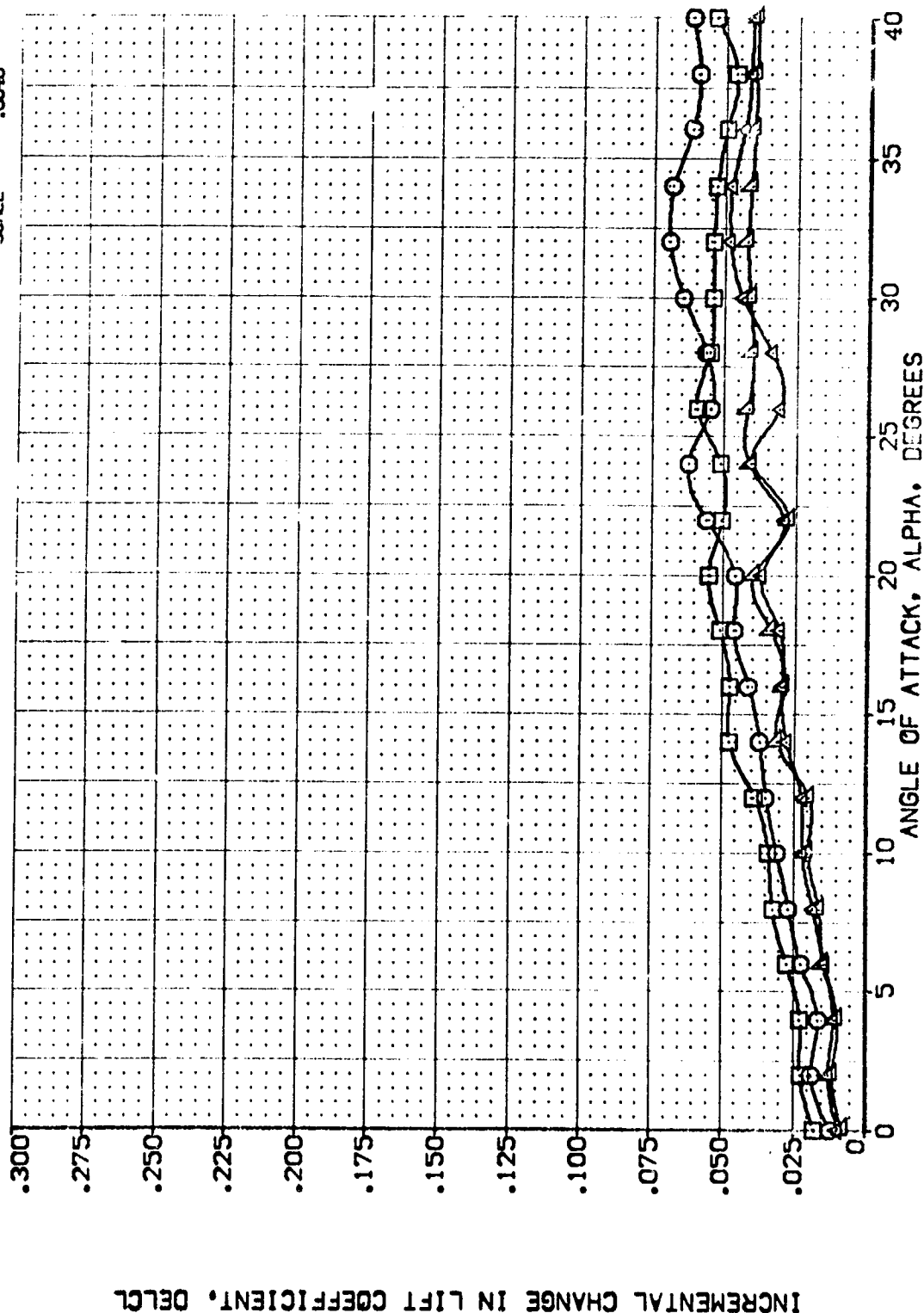
DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDFLAP	970BWK	AILEON	REFERENCE INFORMATION
MS2005	MSFC 581(0A49) 088 3A-0 (BDPM) (VE)(VR)	12.530	-11.700	25.550	-1.680	9REF 2741.8000 50. FT
MS2008	MSFC 581(0A49) 088 3A-0 (BDPM) (LE)(VR)	12.530	16.300	23.550	-1.680	LREF 481.6480 IN.
MS2115	DATA NOT AVAILABLE	12.530	22.600	23.550	-1.680	BREF 536.7000 IN.
MS2107	MSFC 581(0A49) 088 3A-0 (BDPM)(VE)(VR)	8.970	-11.700	23.550	-1.650	XTRP 1081.3500 IN.
MS2017	MSFC 581(0A49) 088 3A-0 (BDPM) (VE)(VR)	8.970	16.300	23.550	-1.650	YTRP .0000 IN.
						ZTRP .0000 IN.
						SCALE .0040



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (P32005) (P32005) 34-0 (BOTH) (VE)(VR)
 (P32006) (P32006) 34-0 (BOTH) (VE)(VR)
 (P32007) (P32007) DATA NOT AVAILABLE
 (P32008) (P32008) 34-0 (BOTH) (VE)(VR)
 (P32009) (P32009) 34-0 (BOTH) (VE)(VR)

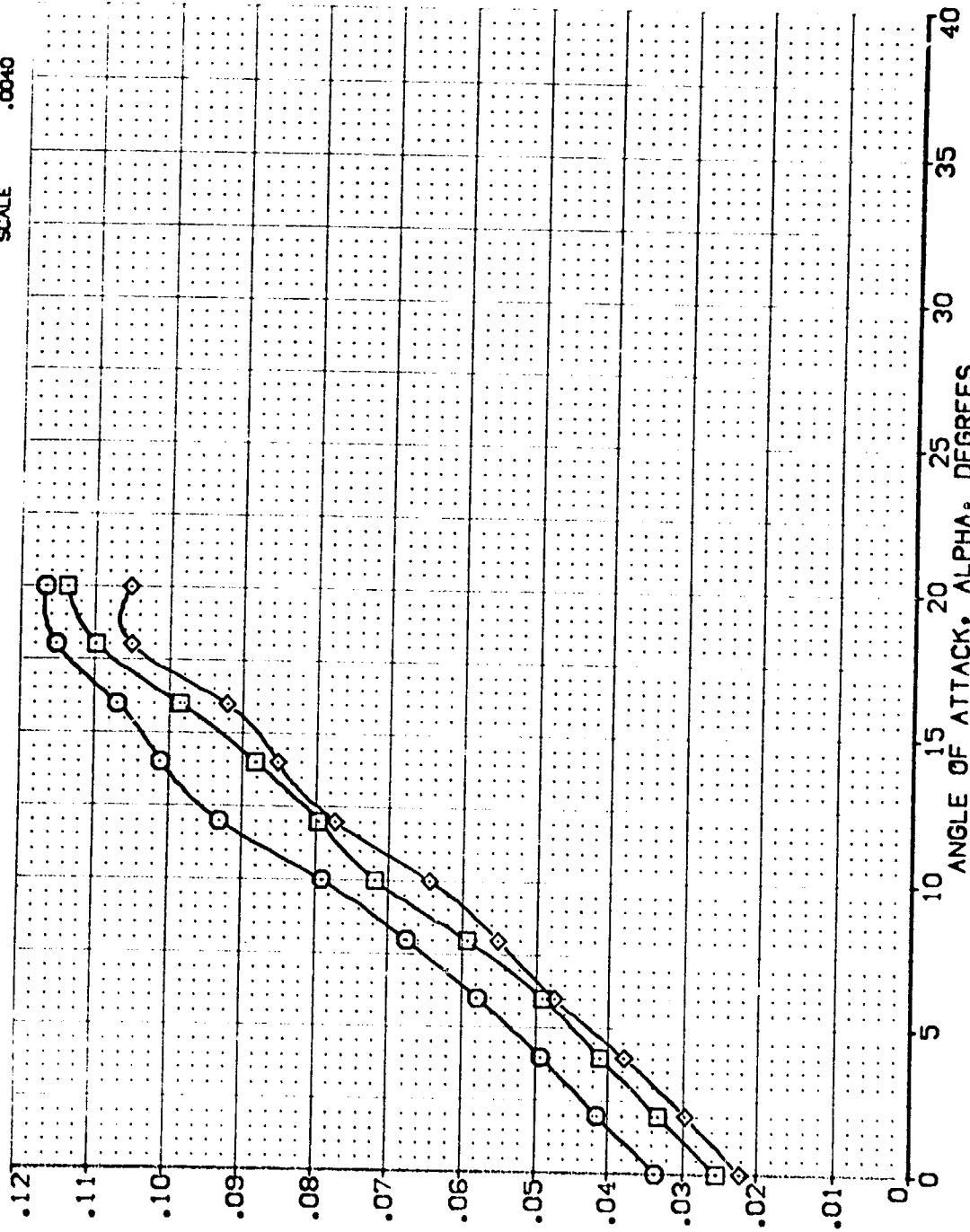
DELEVR 8.970 16.300 25.550 25.550 25.550 25.550
 BODYFLAP -11.700 16.300 22.600 22.600 22.600 22.600
 AILRON -1.680 -1.680 -1.680 -1.680 -1.680 -1.680
 REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(G)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPDBRK	AILRON	REFERENCE INFORMATION	
(M20005)	MSFC S91(CA49) CR3 34-0 (BOFH) (VE)(VR)	12.630	-11.700	23.550	-1.680	SREF	2741.8000 SQ. FT
(M20003)	MSFC S91(CA49) CR3 34-0 (BOFH) (VE)(VR)	12.630	16.300	23.550	-1.680	LREF	481.6460 IN.
(M21115)	MSFC S91(CA49) CR3 34-0 (BOFH) (VE)(VR)	12.630	22.600	23.550	-1.680	BREF	936.7000 IN.
(M22107)	DATA NOT AVAILABLE	8.970	-11.700	23.550	-1.650	XMRP	1081.3900 IN.
(M22017)	DATA NOT AVAILABLE	8.970	16.300	23.550	-1.650	YMRP	.0000 IN.
						ZMRP	.0000 IN.
						SCALE	.0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

CAJMACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(H2005) MSFC S01 (0419) OR3 34-0 (BOTH) (VE) (VR)

(H2009) MSFC S01 (0419) OR3 34-0 (BOTH) (VE) (VR)

(H2116) MSFC S01 (0419) OR3 34-0 (BOTH) (VE) (VR)

(H2107) DATA NOT AVAILABLE

(H2017) DATA NOT AVAILABLE

DELEVR 12.630 12.630 12.630 8.970 8.970

BDFLAP -11.700 -11.700 -11.700 -11.700 -11.700

SFOBRK 25.550 25.550 25.550 25.550 25.550

AILRON -1.680 -1.680 -1.680 -1.650 -1.650

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT

LREF 481.6480 IN.

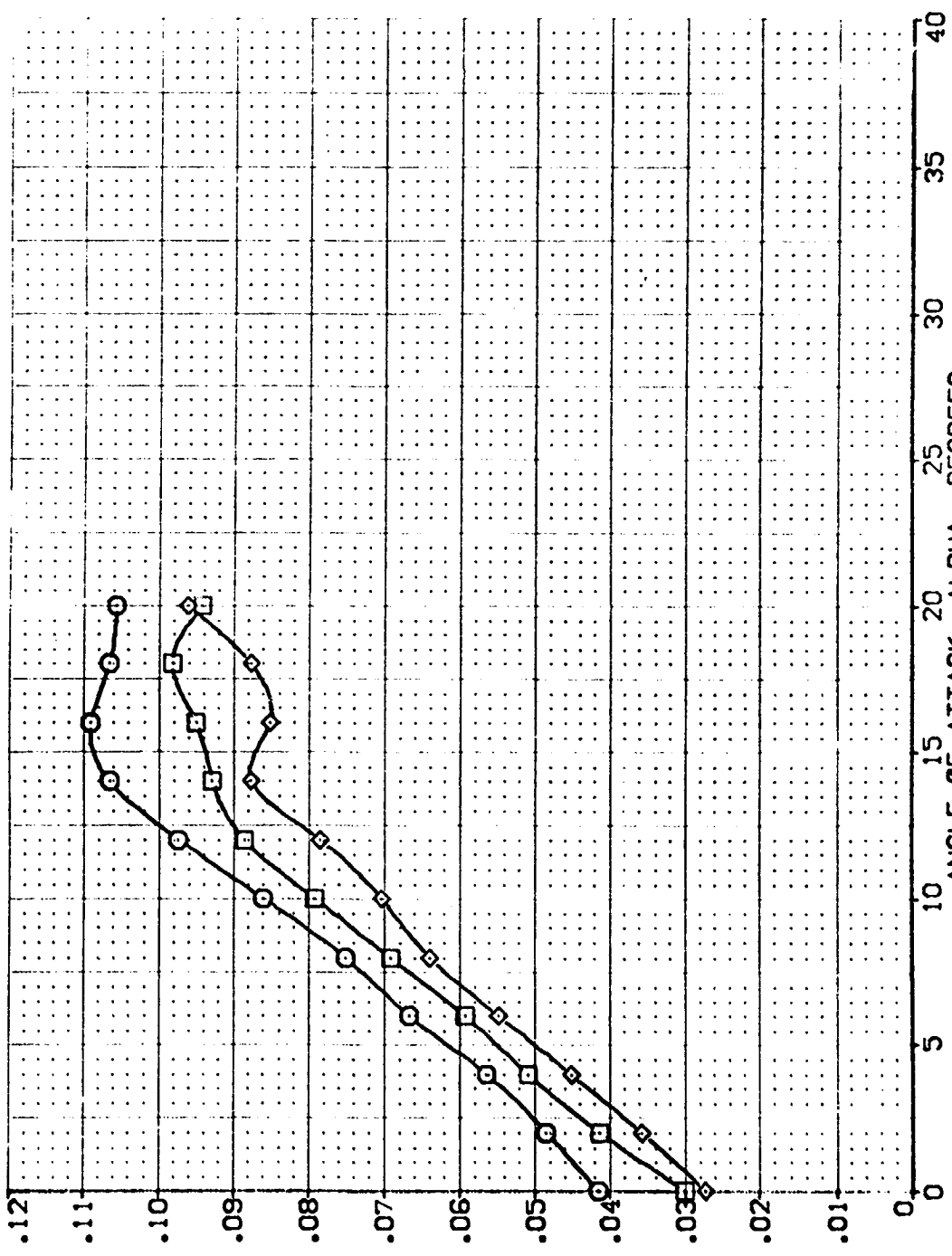
BREF 936.7000 IN.

XREF 1081.2800 IN.

YREF .0000 IN.

ZREF .0040 IN.

SCALE



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(B)MACH = .90

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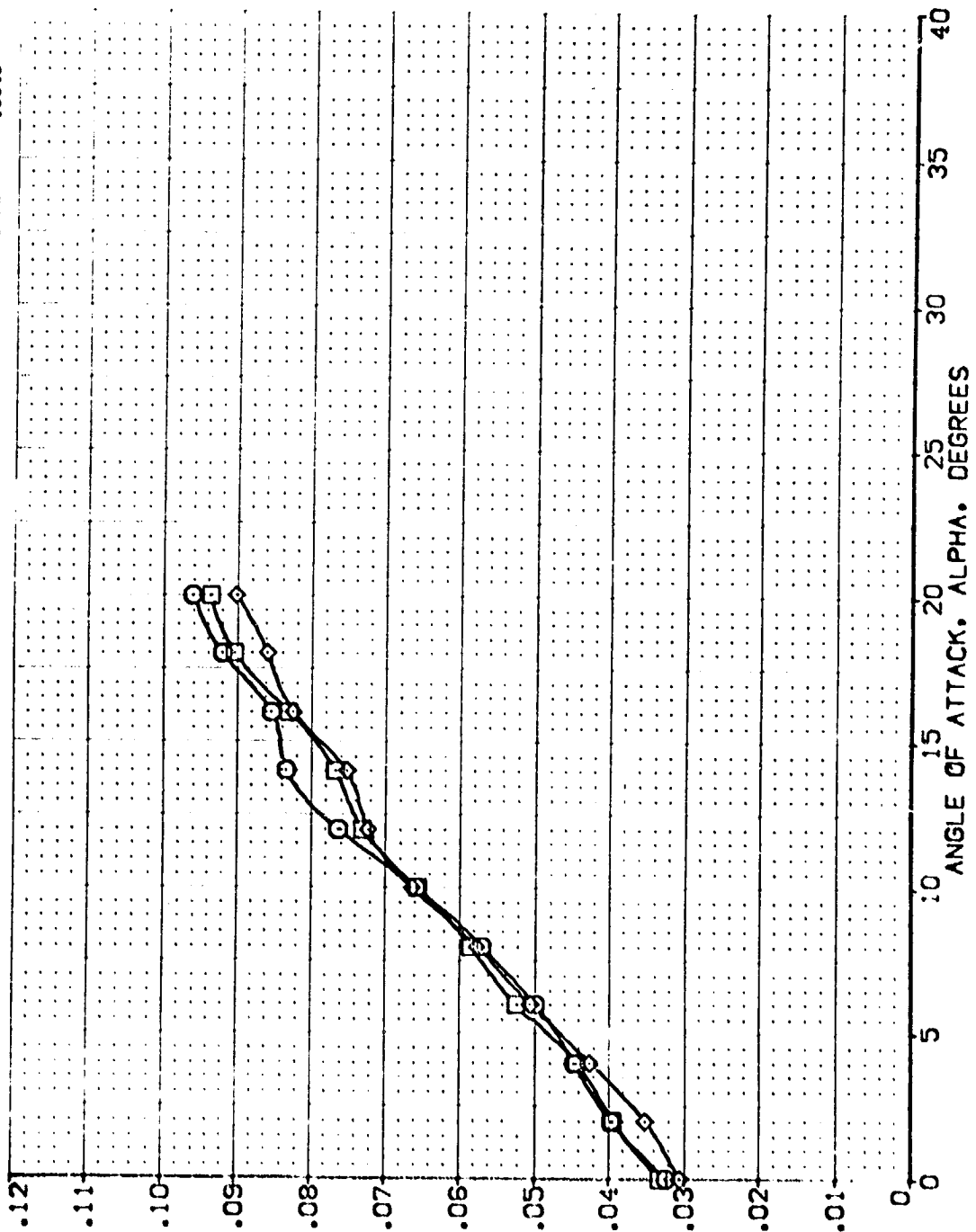


DATA SET SYMBOL:   

CONFIGURATION DESCRIPTION:

MSFC 581(0A49) C88 3A-0 (BDM) (VE)(VR)	DELEV	BDFLAP	SPOBRK	ALURON	REFERENCE INFORMATION
MSFC 531(0A49) C88 3A-0 (BDM) (VE)(VR)	12.630	-11.700	25.550	-1.680	SREF 2741.6000 50. FT
MSFC 581(0A49) C88 3A-0 (BDM) (VE)(VR)	12.630	16.300	25.550	-1.680	LREF 481.6480 IN.
MSFC 581(0A49) C88 3A-0 (BDM) (VE)(VR)	12.630	22.600	25.550	-1.680	BREF 936.7000 IN.
DATA NOT AVAILABLE	8.970	-11.700	25.550	-1.680	XPRP 1081.3500 IN.
	8.970	16.300	25.550	-1.680	YPRP .0000 IN.
					ZPRP .0000 IN.
					SCALE .0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



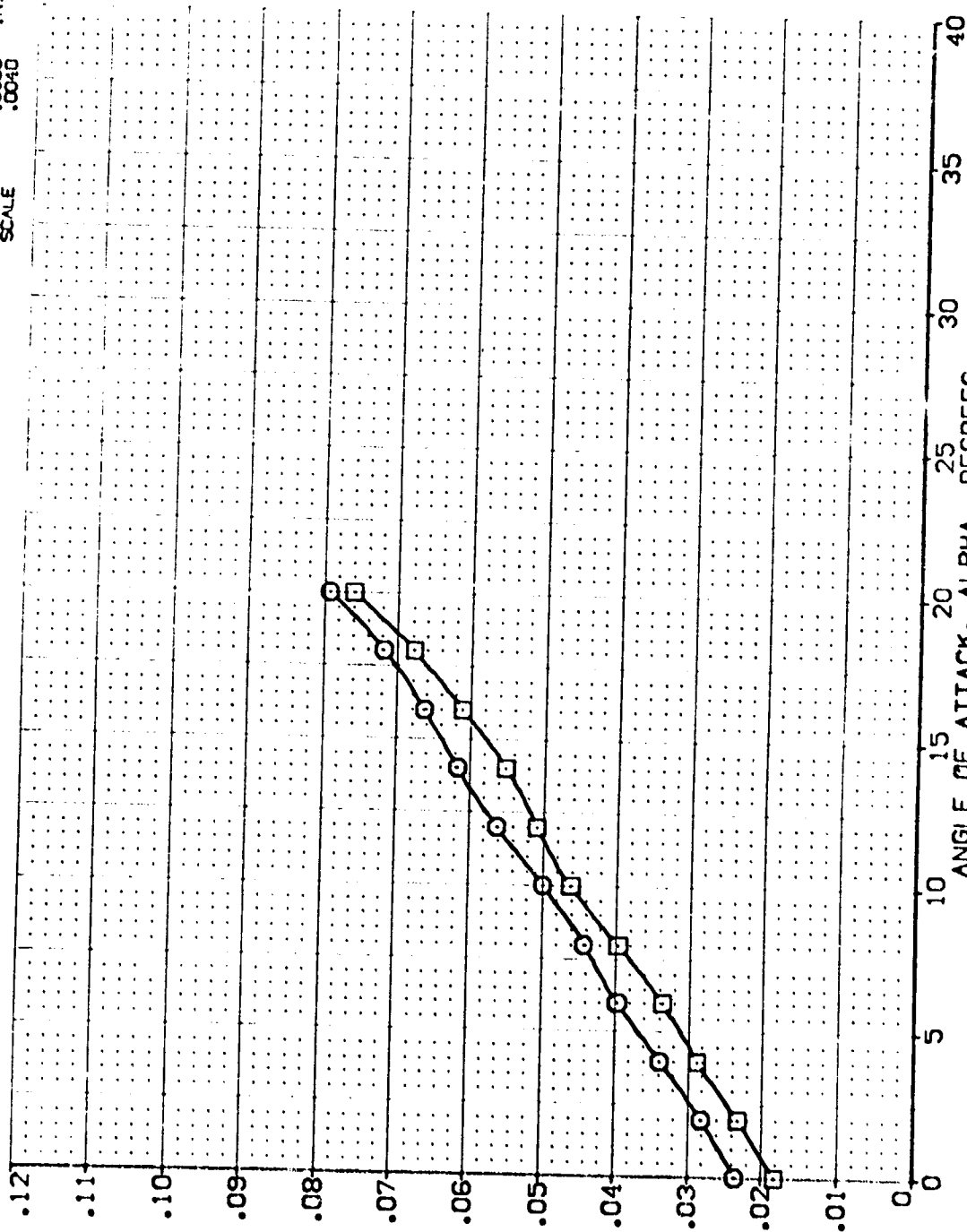
BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

CCMACH = 1.19

DATA SET SYMBOL
 (M2005)
 (M2003)
 (M2001)
 (M2016)
 (M2017)
 (M2017)

CONFIGURATION DESCRIPTION
 MFC 581 (DA49) 088 34-0 (BOPH) (VE)(VR)
 MFC 531 (DA49) 083 34-0 (BOPH) (VE)(VR)
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE
 DATA NOT AVAILABLE

DELEV R BOFLAP SPDRPK AILRON REFERENCE INFORMATION
 12.630 -11.700 25.550 -1.680 SREF 2741.8000 SQ. FT
 12.630 16.300 25.550 -1.680 LREF 481.6480 IN.
 12.630 22.600 25.550 -1.680 BREF 936.7000 IN.
 8.970 -11.700 25.550 -1.680 XREF 1081.3500 IN.
 8.970 16.300 25.550 -1.680 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0010

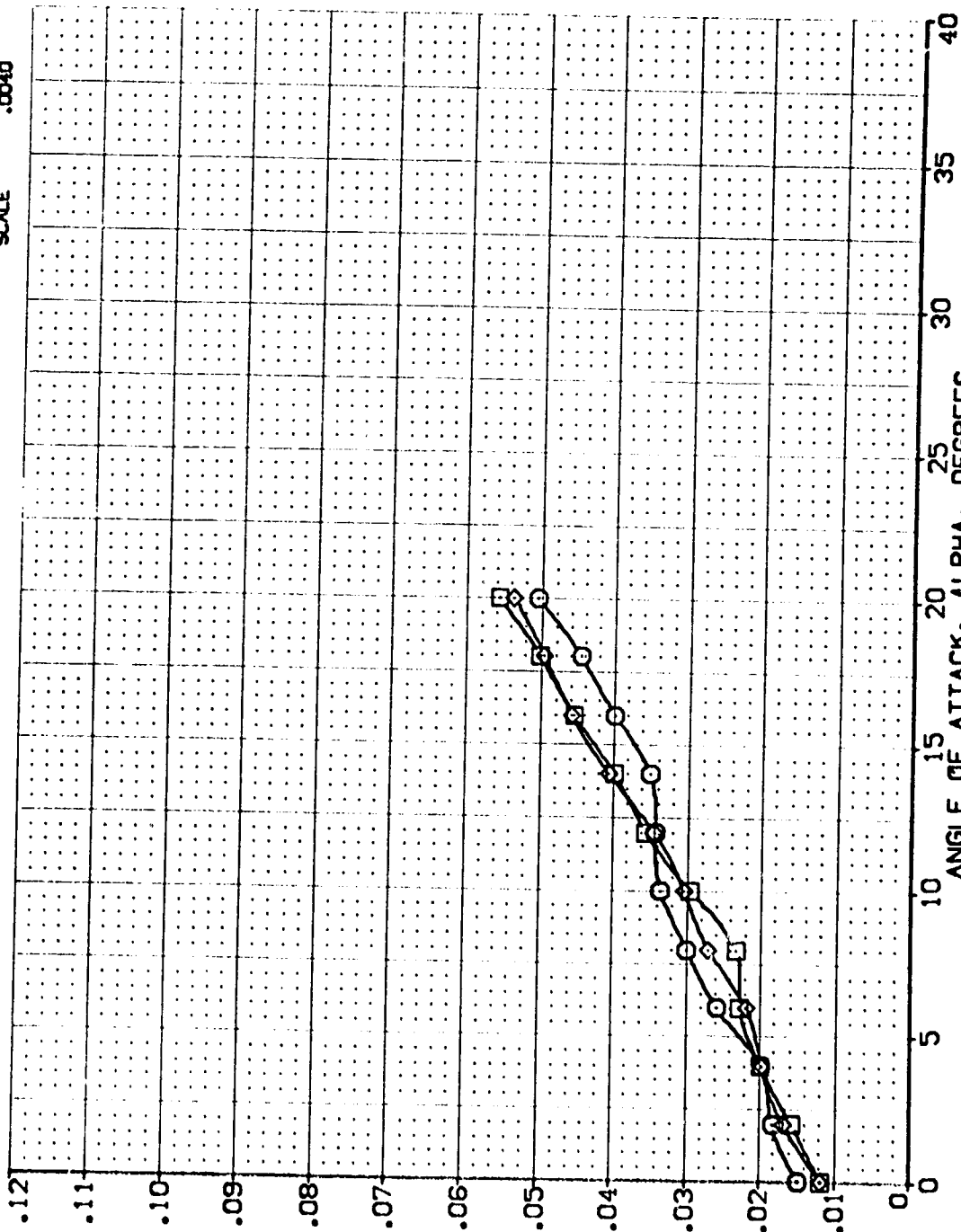


BODY FLAP - ELEVEN INTERACTION (INC. FROM 4.16 DEGREE ELEVEN)

(O)MACH = 1.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
MS2005	MSFC 531(DA49) 073 34-0 (BOFH) (VE)(VR)	12.630	-11.700	25.550	-1.680	SREF 2741.8000 SQ. FT
MS2006	MSFC 531(DA49) 073 34-0 (BOFH) (VE)(VR)	12.630	16.300	25.550	-1.680	UREF 481.6480 IN.
MS2016	MSFC 531(DA49) 073 34-0 (BOFH) (VE)(VR)	12.630	22.600	25.550	-1.680	BREF 936.7000 IN.
MS2017	DATA NOT AVAILABLE	8.970	-11.700	25.550	-1.650	XMRP 1081.3800 IN.
		8.970	16.300	25.550	-1.650	ZMRP .0000 IN.
						SCALE .0040



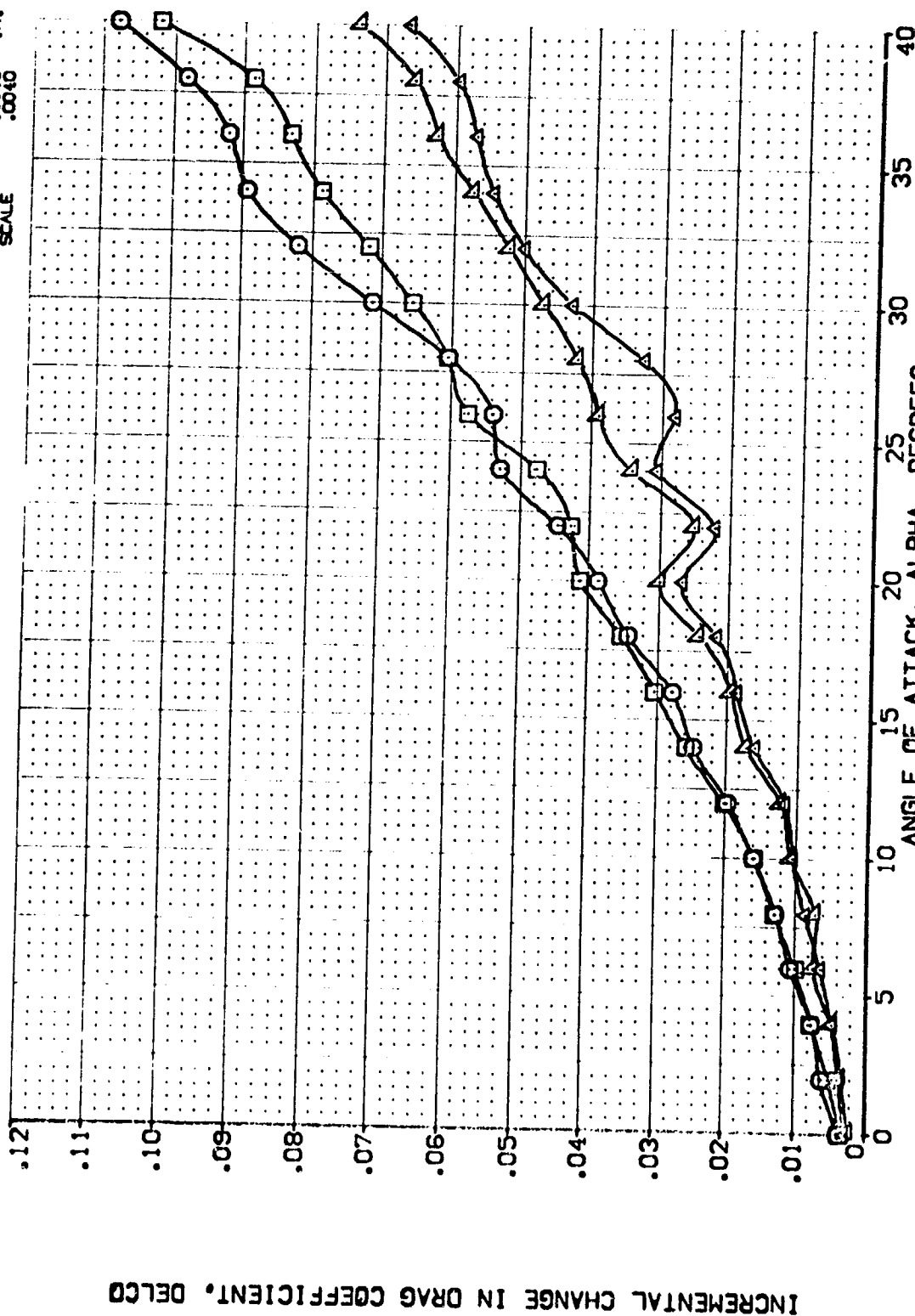
INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELTA CD

BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(E)MACH = 1.96

CONFIGURATION DESCRIPTION

REFERENCE INFORMATION	
BOFLAP	2741.8000 SQ. FT
DELEVR	481.6180 IN.
SPDRBK	536.7000 IN.
ALIRON	1081.3500 IN.
	0.0000 IN.
	0.0000 IN.
	0.0040 IN.



ANGLE OF ATTACK, ALPHA, DEGREES

$$\text{CGMACH} = 4.96$$

DATA SET SYMBOL

(M2005)
(M2008)
(M2116)
(M2107)
(M2017)

CONFIGURATION DESCRIPTION

M2C 531(CA19) C3 34-0 (BDTH) (VE)(VR)
M2C 531(CA19) C3 34-0 (BDTH) (VE)(VR)
M2C 531(CA19) C3 34-0 (BDTH) (VE)(VR)
DATA NOT AVAILABLE
DATA NOT AVAILABLE

DELEV 12.630
12.630
12.630
8.970

BDCLAP -11.700
16.300
22.630
-11.700

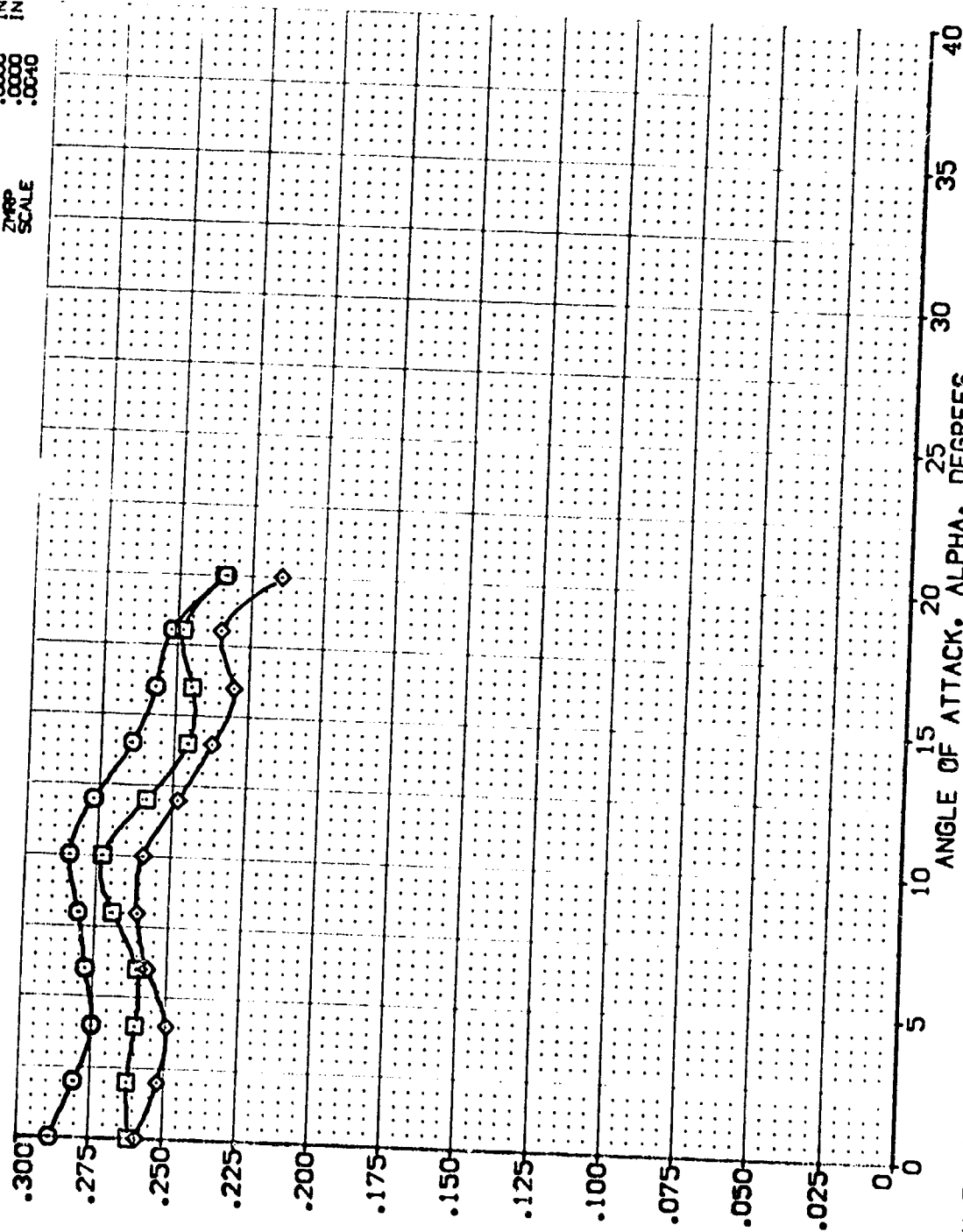
SPORRY 23.550
23.550
23.550
23.550

AIRNON -1.680
-1.680
-1.680
-1.650

REFERENCE INFORMATION

SREF 2741.6000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0040 IN.
SCALE

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

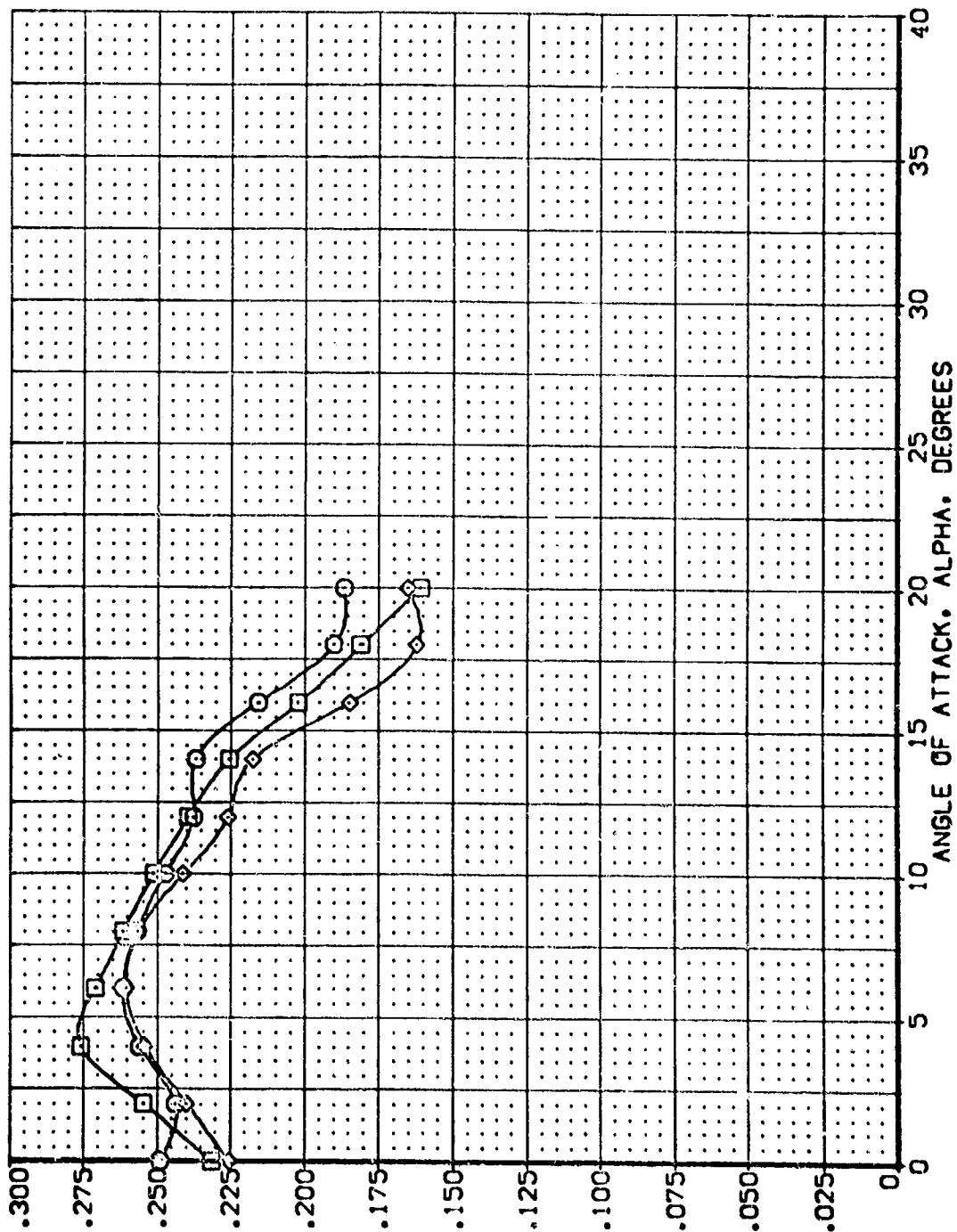


BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)
(M)MACH = .60

DATA SET SYMBO. CONFIGURATION DESCRIPTION

(H20005)	MSFC S31(DA49) 023 34-0 (BDTH) (VE)(VR)	DELEVR	BDFLAP	SPDRBK	AILRON	REFERENCE INFORMATION			
(H20008)	MSFC S31(DA49) C73 34-0 (BDTH) (VE)(VR)	12.630	-11.700	25.550	-1.600	SREF	2741.8000	SD	FT
(H20116)	MSFC S31(DA49) C73 34-0 (BDTH) (VE)(VR)	12.630	16.300	25.550	-1.600	UREF	481.6400	IN.	
(H20107)	MSFC S31(DA49) C73 34-0 (BDTH) (VE)(VR)	12.630	22.600	25.550	-1.600	BREF	936.7000	IN.	
(H20017)	DATA NOT AVAILABLE	8.970	-11.700	25.550	-1.600	XMRP	1061.3900	IN.	
	DATA NOT AVAILABLE	8.970	16.300	25.550	-1.600	YMRP	.0000	IN.	
						ZMRP	.0000	IN.	
						SCALE	.0040		

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

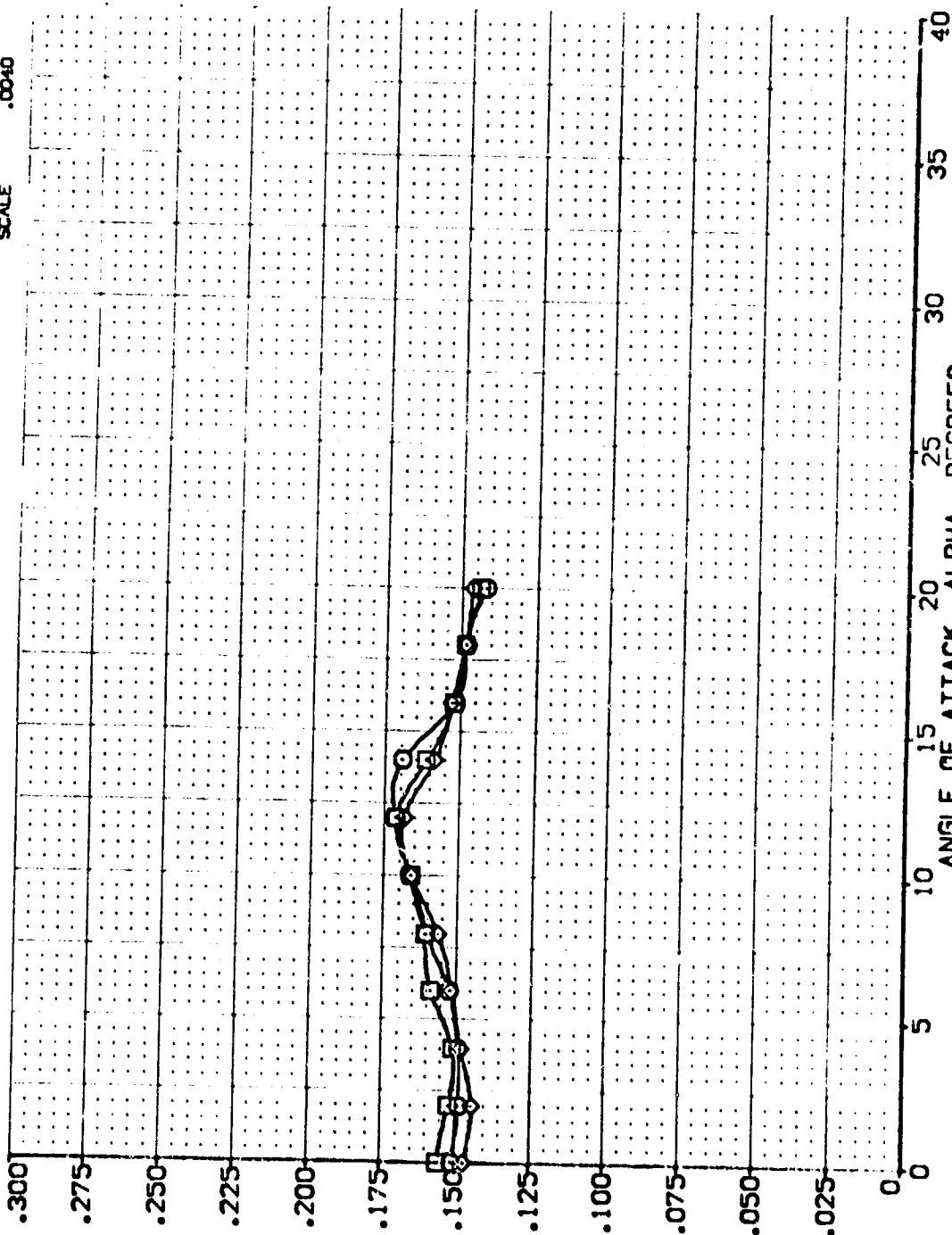
(B)MACH = .90



INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

DATA SET SYMBOL CONFIGURATION DESCRIPTION
[M2205] S81(0A49) 0-3 34-0 (BOFH) (VE)(VR)
[M2206] S81(0A49) 0-3 34-0 (BOFH) (VE)(VR)
[M2216] S81(0A49) 0-3 34-0 (BOFH) (VE)(VR)
[M2217] S81(0A49) 0-3 34-0 (BOFH) (VE)(VR)
[M2218] DATA NOT AVAILABLE
[M2219] DATA NOT AVAILABLE
[M2220] DATA NOT AVAILABLE

DELEVR BOFLAP SPDRK AILRON REFERENCE INFORMATION
12.630 -11.700 25.550 -1.680 SREF 2741.8000 SQ. FT
12.630 -11.700 25.550 -1.680 LREF 481.6490 IN.
12.630 -11.700 25.550 -1.680 BREF 936.7000 IN.
8.970 -11.700 25.550 -1.680 XREF 1081.3000 IN.
8.970 -11.700 25.550 -1.680 YREF 1000.0000 IN.
SCALE .0040



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

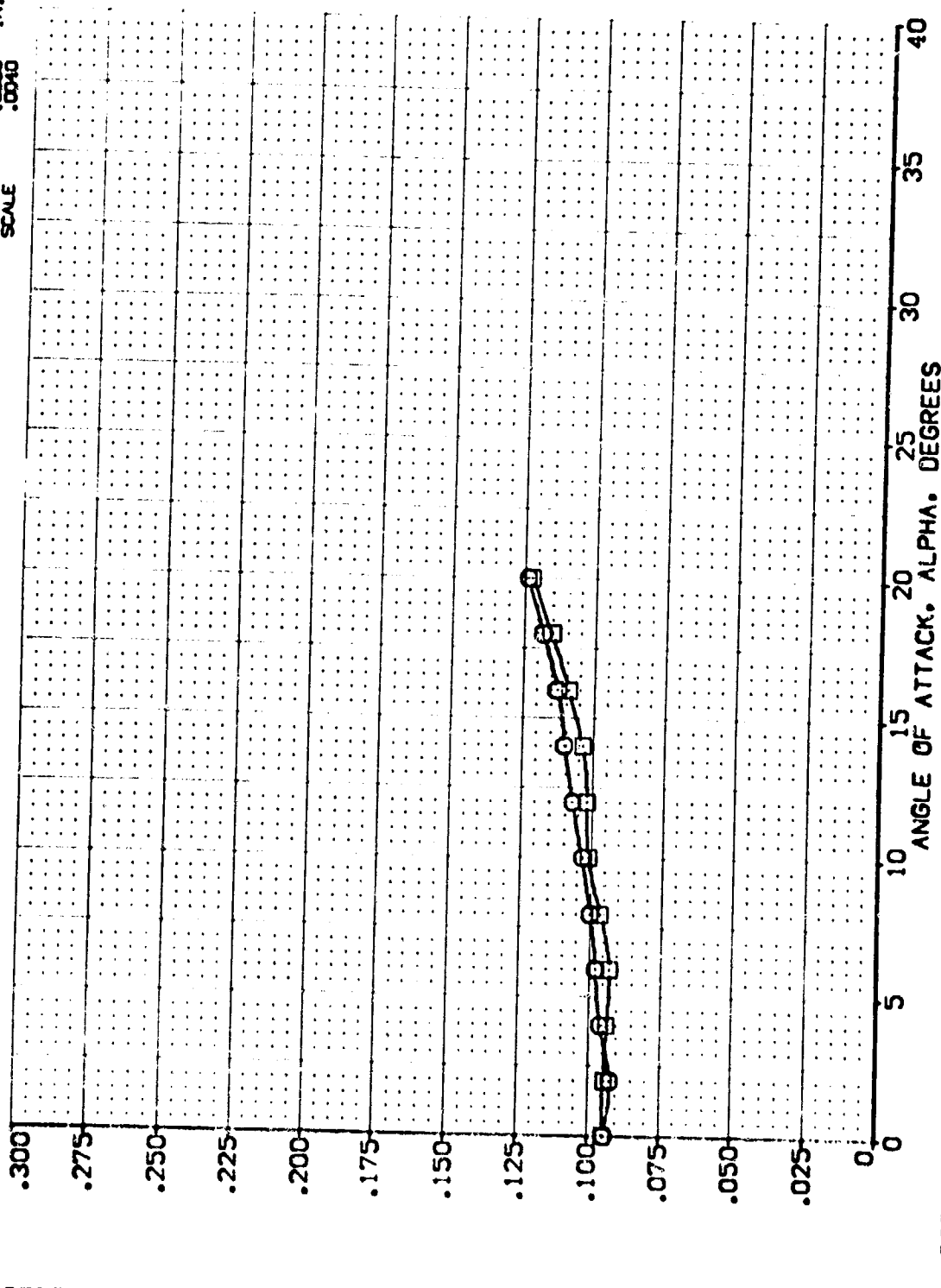
(C)MACH = 1.19

DATA SET SYMBOL:   

CONFIGURATION DESCRIPTION:

MSFC 501(OA43) 078 34-0 (BOPH) (VE)(VR)	DELEV	BOFLAP	SPDRK	AILRON	REFERENCE INFORMATION
MSFC 501(OA43) 078 34-0 (BOPH) (VE)(VR)	12.630	-11.700	25.550	-1.680	SREF 2741.8000 SQ. FT
DATA NOT AVAILABLE	12.630	16.200	23.550	-1.680	LREF 481.6480 IN.
DATA NOT AVAILABLE	12.630	27.600	23.550	-1.680	BREF 536.7000 IN.
DATA NOT AVAILABLE	8.970	-11.700	23.550	-1.650	XREF 1081.3500 IN.
DATA NOT AVAILABLE	8.970	16.300	23.550	-1.650	YREF 1081.3500 IN.
					ZREF 1081.3500 IN.
					SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



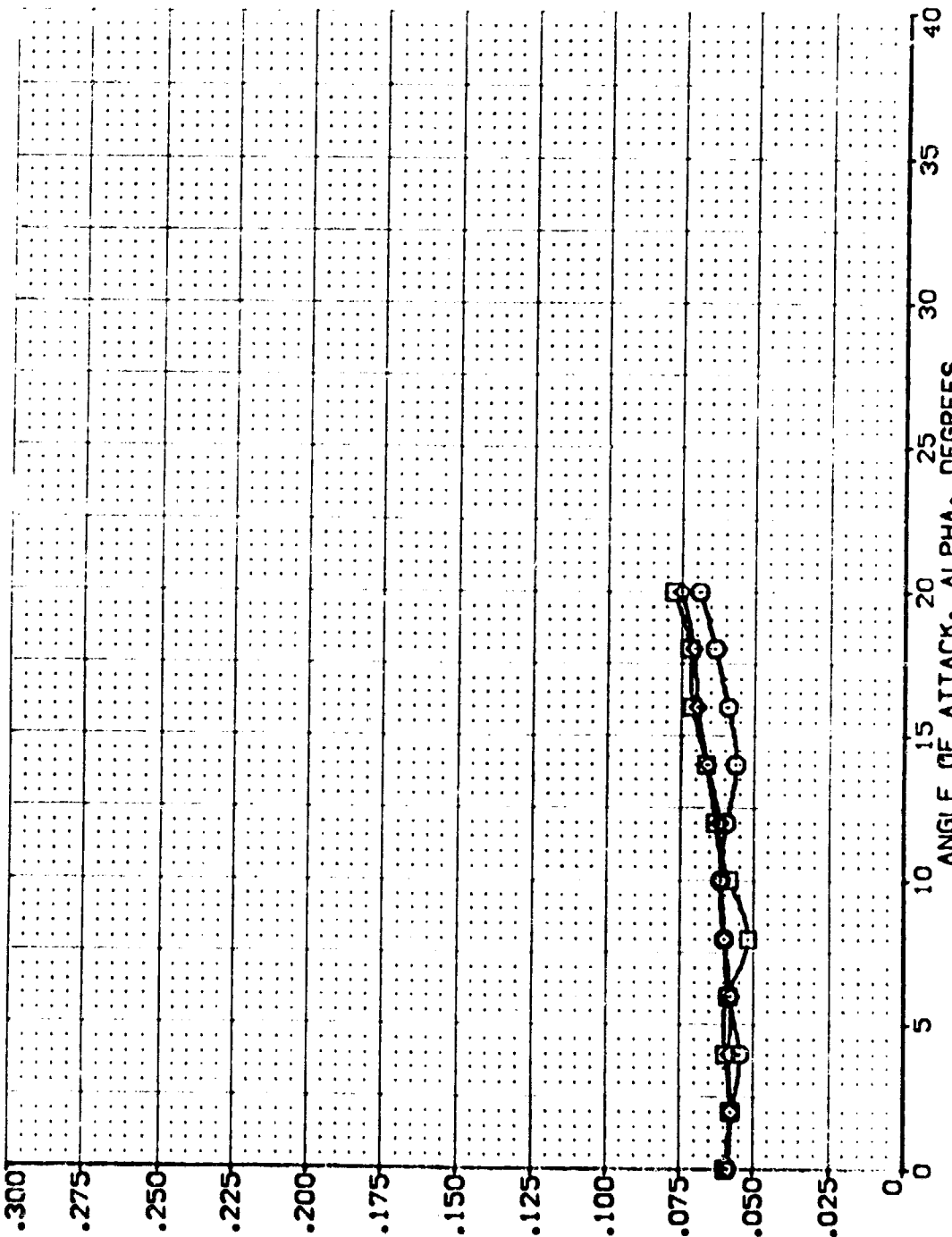
BODY FLAP - ELEVEN INTERACTION (INC. FROM 4.16 DEGREE ELEVEN)

(O)MACH = 1.45

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

DATA SET SYMBOL: [P22005] [P22006] [P22007] [P22017]
 CONFIGURATION DESCRIPTION: MFC 531(0419) OFB 34-0 (BOTH) (VE)(VR) MFC 531(0419) OFB 34-0 (BOTH) (VE)(VR) MFC 531(0419) OFB 34-0 (BOTH) (VE)(VR) DATA NOT AVAILABLE DATA NOT AVAILABLE

DELEVR: 12.630 12.630 12.630 8.970 8.970
 BODYFLAP: -11.700 16.300 22.600 -11.700 16.300
 SPDBRK: 25.550 25.550 25.550 25.550 25.550
 ALLNON: -1.680 -1.680 -1.680 -1.680 -1.680
 REFERENCE INFORMATION: SREF 2741.8000 50. FT LREF 481.6460 IN. BREF 936.7000 IN. XMRP 1081.3500 IN. YMRP .0000 IN. ZMRP .0040 IN. SCALE

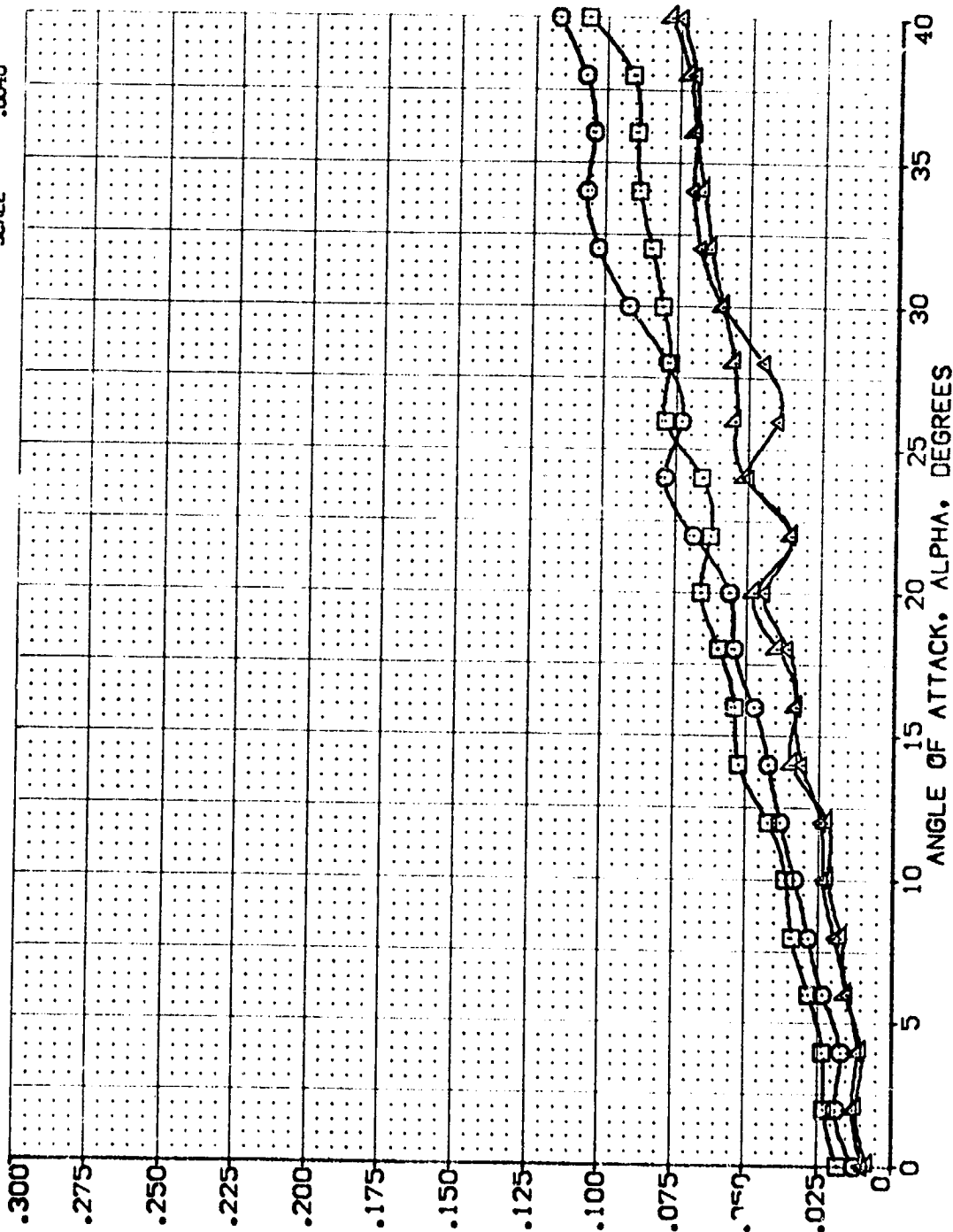


BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(E)MACH = 1.96

DELEVR	BOFLAP	SPDECK	ATLORN	REFERENCE INFORMATION	FT
12.630	-1.700	25.550	-1.680	SREF	2741.8000
12.630	16.200	23.550	-1.680	LEFT	461.5480
12.630	16.200	23.550	-1.680	RIGHT	555.7000
16.970	7.600	23.550	-1.650	YMRP	1091.3500
16.970	16.300	23.550	-1.650	YMRP	1000.0000
8.570	-16.300	23.550	-1.650	YMRP	1000.0000
				SCALE	10040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELTA



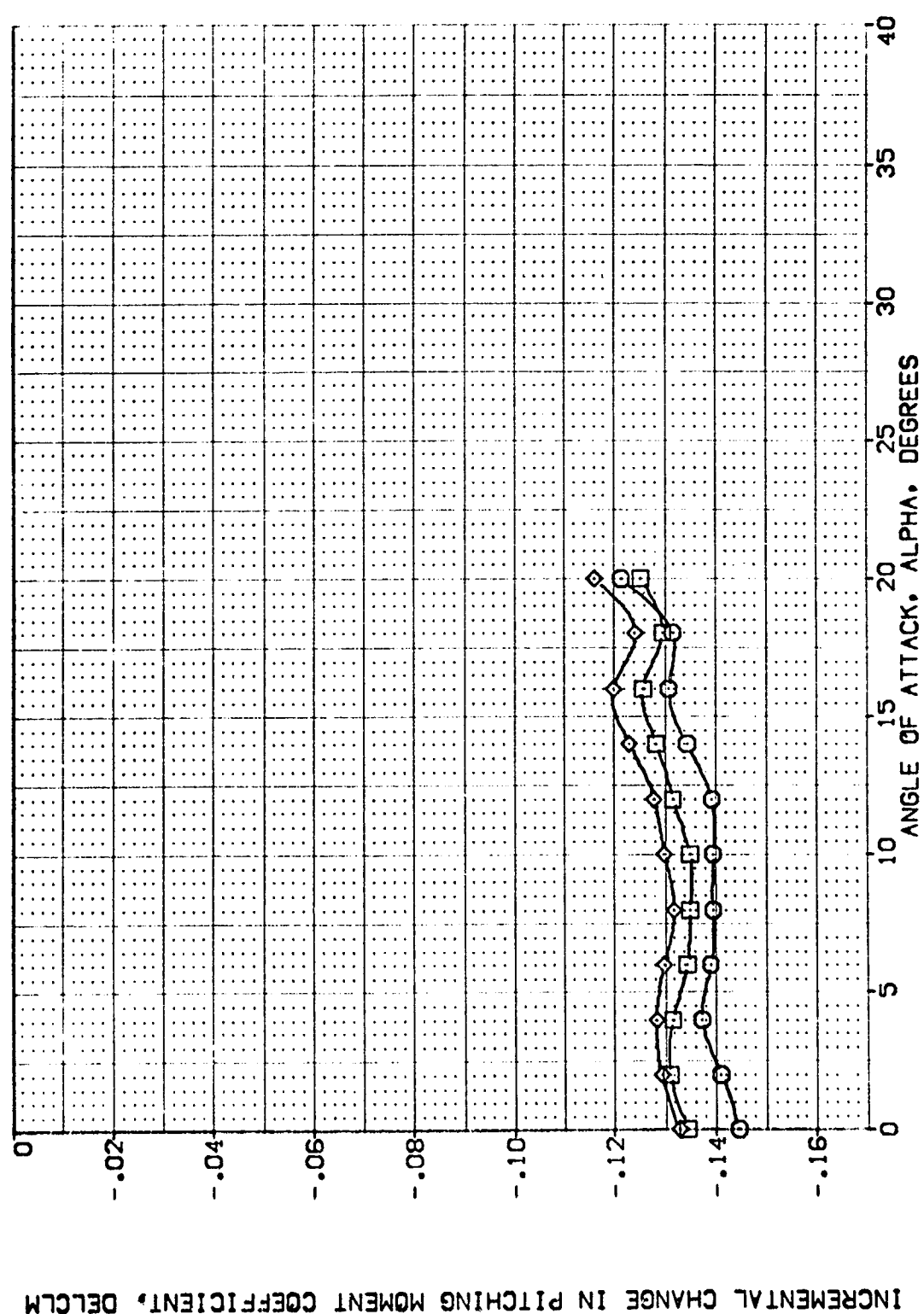
BODY FLAP - ELEVEN INTERACTION (INC. FROM 4.16 DEGREE ELEVEN)

[G]MACH = 4.96

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEVR	BOFLAP	SPDBRK	ALLONN	REFERENCE INFORMATION
(M2005)	M2C 581(OA9) ORB 34-0 (BOFH) (VE)(VR)	12.630	-11.700	25.550	-1.680	SREF 2741.6000 50: FT
(M2008)	M2C 581(OA9) ORB 34-0 (BOFH) (VE)(VR)	12.630	16.300	23.550	-1.680	LREF 481.6480 IN.
(M2016)	M2C 581(OA9) ORB 34-0 (BOFH) (VE)(VR)	12.630	22.600	23.550	-1.680	BREF 536.7000 IN.
(M2107)	DATA NOT AVAILABLE	8.570	-11.700	23.550	-1.650	XMRP 1081.3900 IN.
(M2017)	DATA NOT AVAILABLE	8.570	16.300	23.550	-1.650	YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040

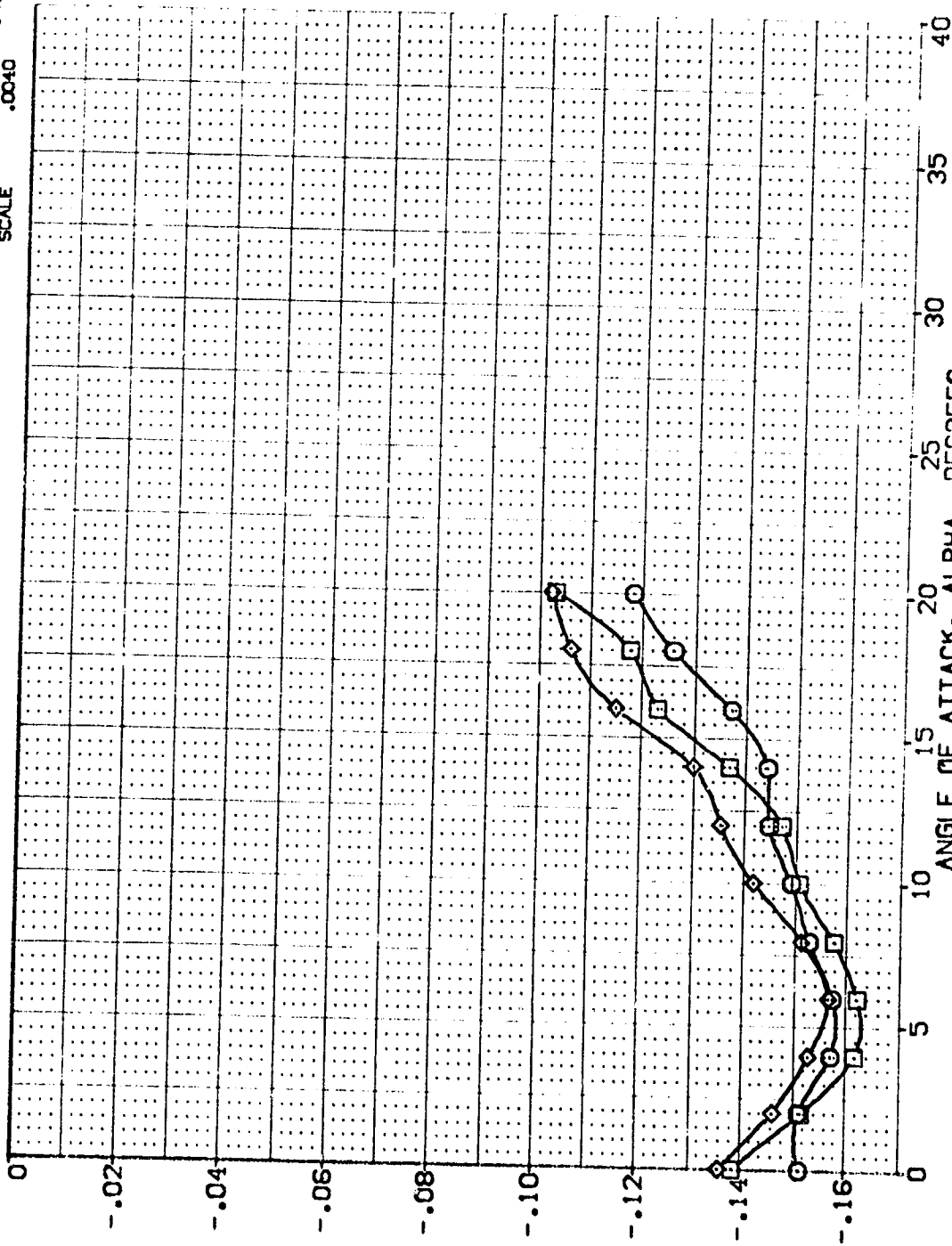


BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(M)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (H92005) MSFC 591 (DA49) CRB 34-0 (BOFH) (VE)(VR)
 (H92008) MSFC 591 (DA49) CRB 34-0 (BOFH) (VE)(VR)
 (H92010) MSFC 591 (DA49) CRB 34-0 (BOFH) (VE)(VR)
 (H92017) DATA NOT AVAILABLE
 (H92017) DATA NOT AVAILABLE

DELEVR 8.570 16.300 16.300 25.550
 BOFLAP -11.700 16.300 25.550
 SPDRK -1.630 25.550 25.550
 AILRON -1.630 25.550 25.550
 REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

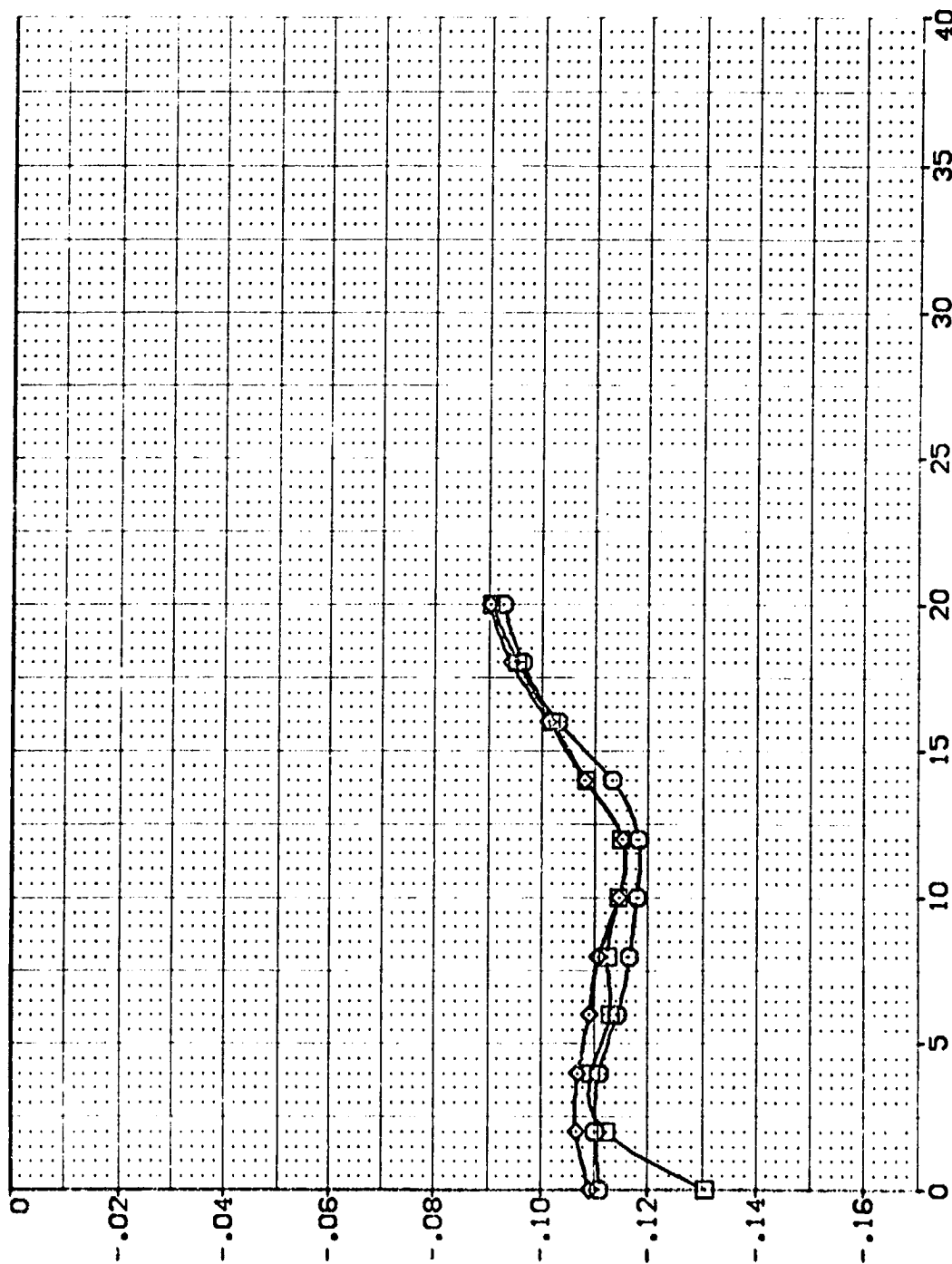


BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)
 (B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDFLAP	SPOBRK	AILRON	SPREF	LREF	BREF	XTRP	YTRP	SCALE
MS2005	SRB 34-0 (BDPH) (VE)(VR)	12.630	-11.700	25.550	-1.680	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040
MS2008	SRB 34-0 (BDPH) (VE)(VR)	12.630	16.300	25.550	-1.680	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040
MS2116	SRB 34-0 (BDPH) (VE)(VR)	12.630	22.600	25.550	-1.680	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040
MS2107	DATA NOT AVAILABLE	8.570	-11.700	25.550	-1.680	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040
MS2017	DATA NOT AVAILABLE	8.570	16.300	25.550	-1.680	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

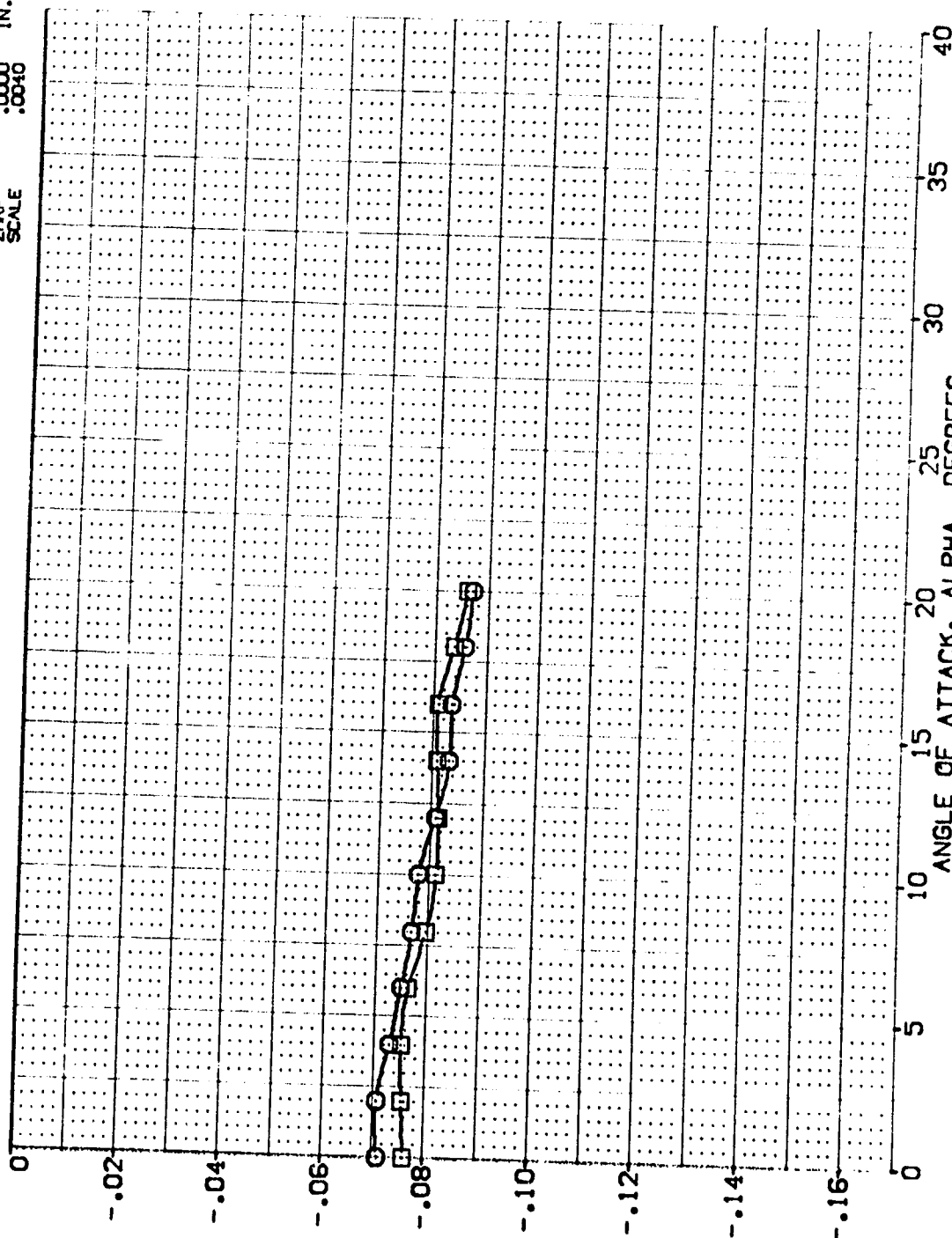
(C)MACH = 1.19



INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(MS2005) MSC 581 (0A49) CRB 34-0 (BOTH) (VE)(VR)
(MS2003) MSC 531 (0A49) CRB 34-0 (BOTH) (VE)(VR)
(MS2016) DATA NOT AVAILABLE
(MS2107) DATA NOT AVAILABLE
(MS2017) DATA NOT AVAILABLE

DELEVR 12.630 -11.700 25.550
12.630 16.300 25.550
12.630 22.600 25.550
8.970 -11.700 25.550
8.970 16.300 25.550
SPDRK 25.550
AILRON -1.680
-1.680
-1.680
-1.680
-1.680
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3900 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0010



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(O)MACH = 1.45

DATA SET SYMBOL

MS2005)
MS2008)
MS2116)
MS2107)
MS2017)

CONFIGURATION DESCRIPTION

MSFC 581(0A49) DBB 34-0 (BOFH) (VE)(VR)
MSFC 581(0A49) DBB 34-0 (BOFH) (VE)(VR)
MSFC 581(0A49) DBB 34-0 (BOFH) (VE)(VR)
DATA NOT AVAILABLE
DATA NOT AVAILABLE

DELEVR 12.630
12.630
12.630
8.970
8.970

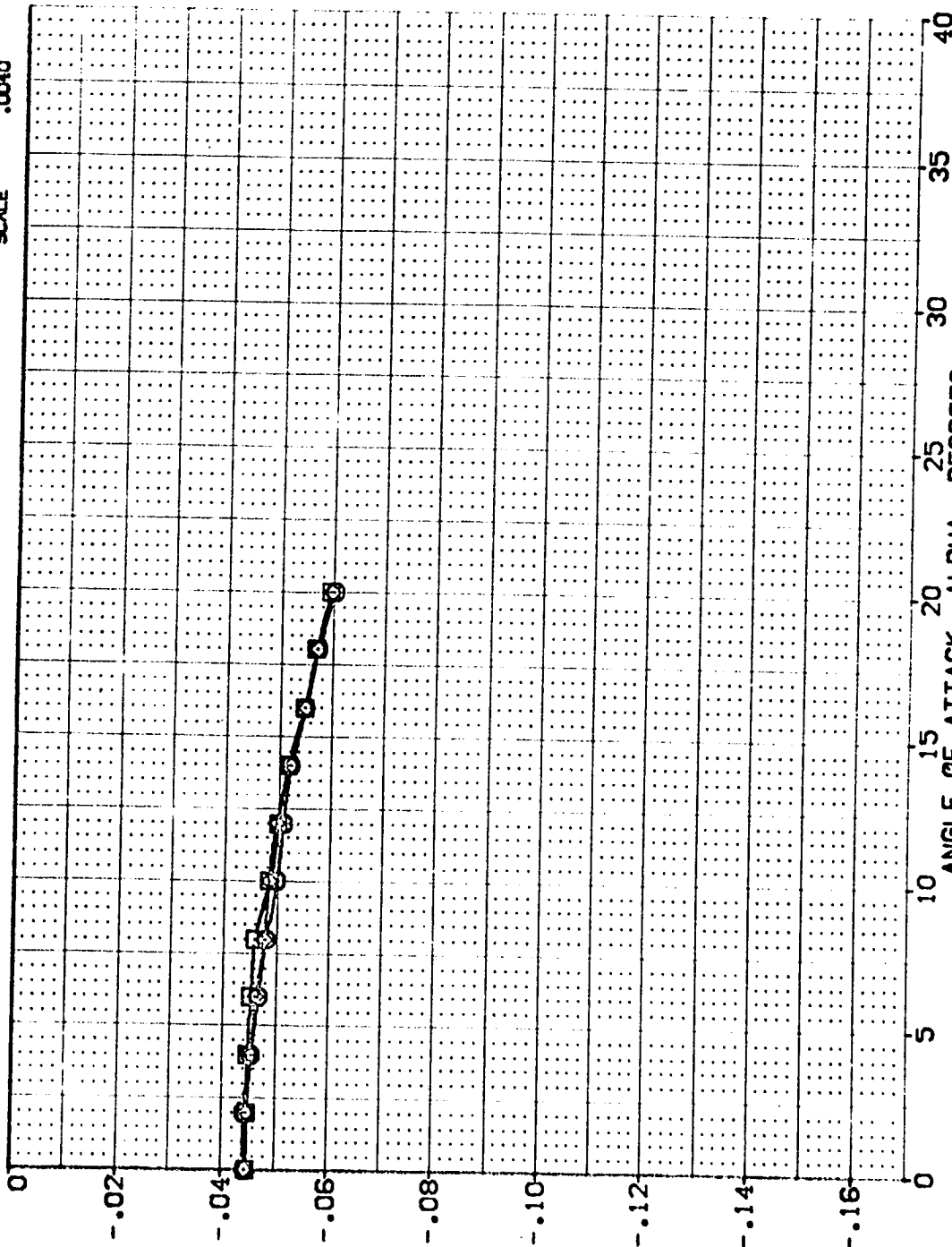
BOFLAP -11.700
16.300
22.600
-11.700
16.300

SPOBRK 25.550
25.550
25.550
25.550
25.550

AILEVN -1.680
-1.680
-1.680
-1.680
-1.680

REFERENCE INFORMATION
SREF 2741.8000 50. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XPRP 1081.3900 IN.
YPRP .0000 IN.
ZPRP .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(C)MACH = 1.96

DATA SET SYMBOL

(H20005)
(H20008)
(H20116)
(H20107)
(H20117)

CONFIGURATION DESCRIPTION

H2FC 501 (0A49) ORB 34-0 (BCFH) (VE)(VR)
H2FC 501 (0A49) ORB 34-0 (BCFH) (VE)(VR)
DATA NOT AVAILABLE
H2FC 501 (0A49) ORB 34-0 (BCFH) (VE)(VR)
H2FC 501 (0A49) ORB 34-0 (BCFH) (VE)(VR)

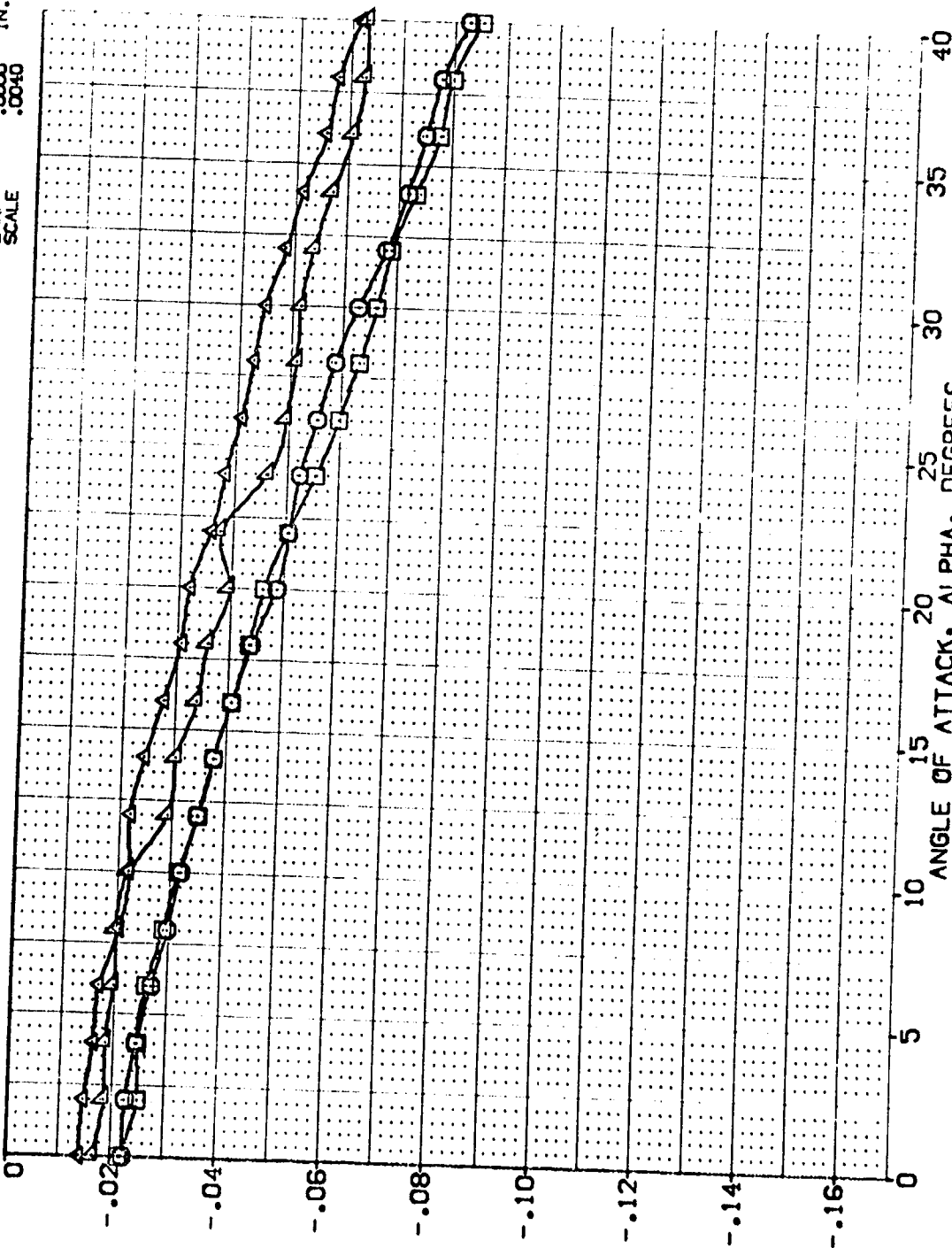
DELEVR 12.630
12.630
12.630
8.970
8.970

BDCLAP -11.700
16.300
22.600
-11.700
16.300

SPOBRK 25.550
25.550
25.550
25.550
25.550

AILRON -1.680
-1.680
-1.680
-1.680
-1.680

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



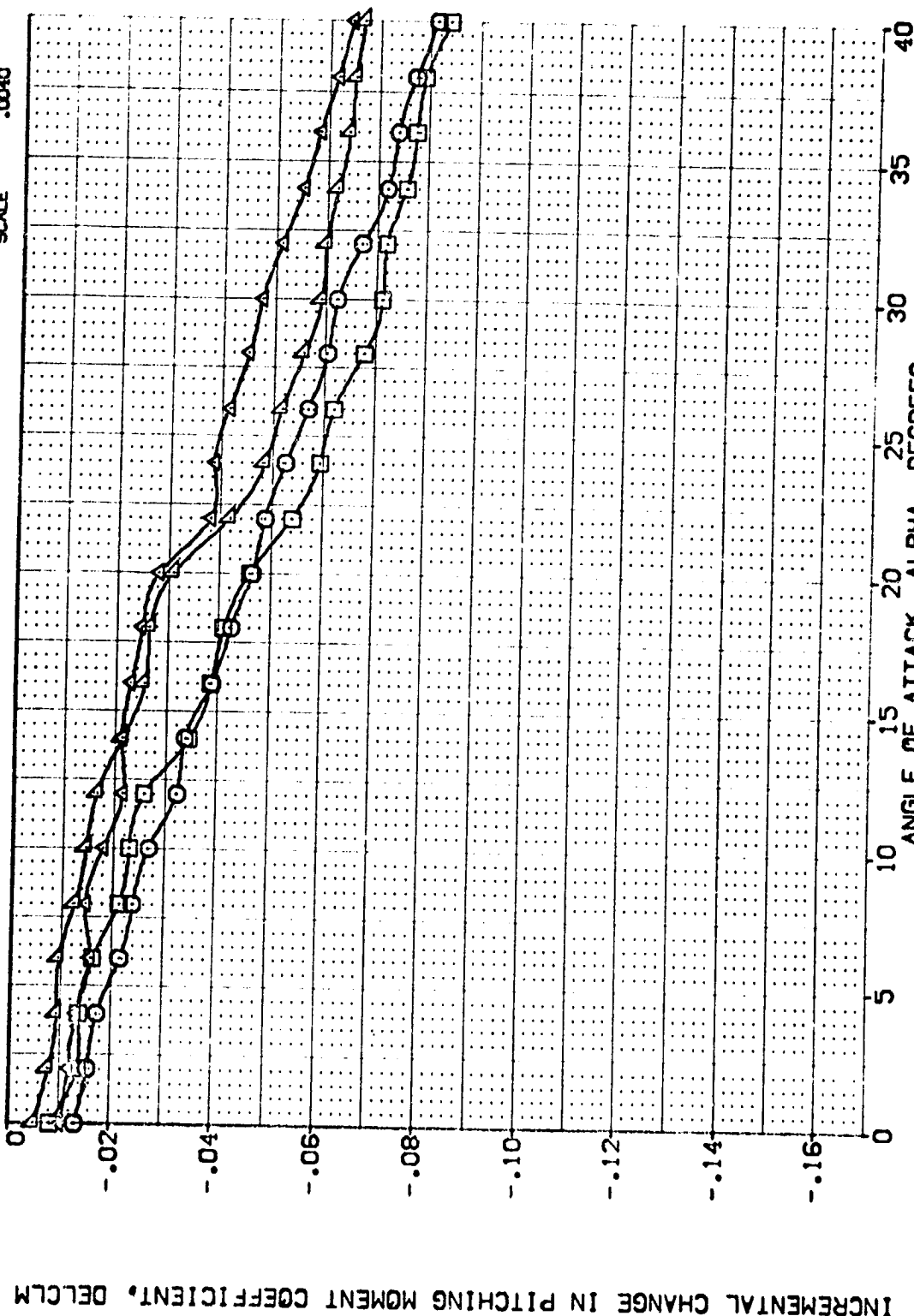
BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)
(F)MACH = 2.99

DATA SET SYMBL. CONFIGURATION DESCRIPTION

[P32005]	MSFC 501(0A49) CRB 34-0 (BOFM) (VE)(VR)
[P32006]	MSFC 531(0A49) CRB 34-0 (BOFM) (VE)(VR)
[P32007]	DATA NOT AVAILABLE
[P32008]	MSFC 501(0A49) CRB 34-0 (BOFM) (VE)(VR)
[P32009]	MSFC 531(0A49) CRB 34-0 (BOFM) (VE)(VR)

DELEV R BOFLAP SPORBK AILRON REFERENCE INFORMATION

12.630	-11.700	25.550	-1.680	SREF	2741.8000	SQ. FT
12.630	16.300	25.550	-1.680	LREF	481.6480	IN.
12.630	22.600	25.550	-1.680	BREF	536.7000	IN.
8.970	-11.700	25.550	-1.650	XREF	1081.3900	IN.
8.970	16.300	25.550	-1.650	ZREF	.0000	IN.
				SCALE	.0040	



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

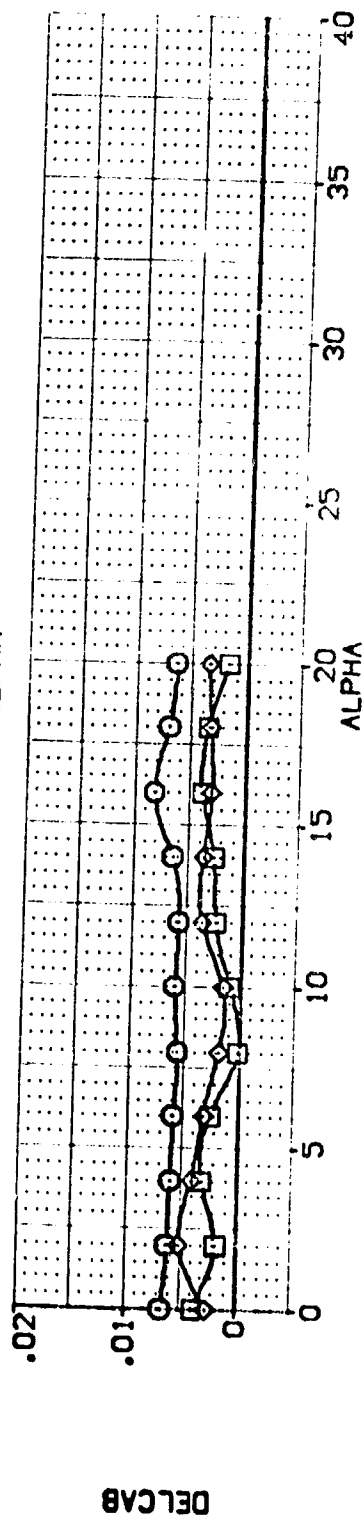
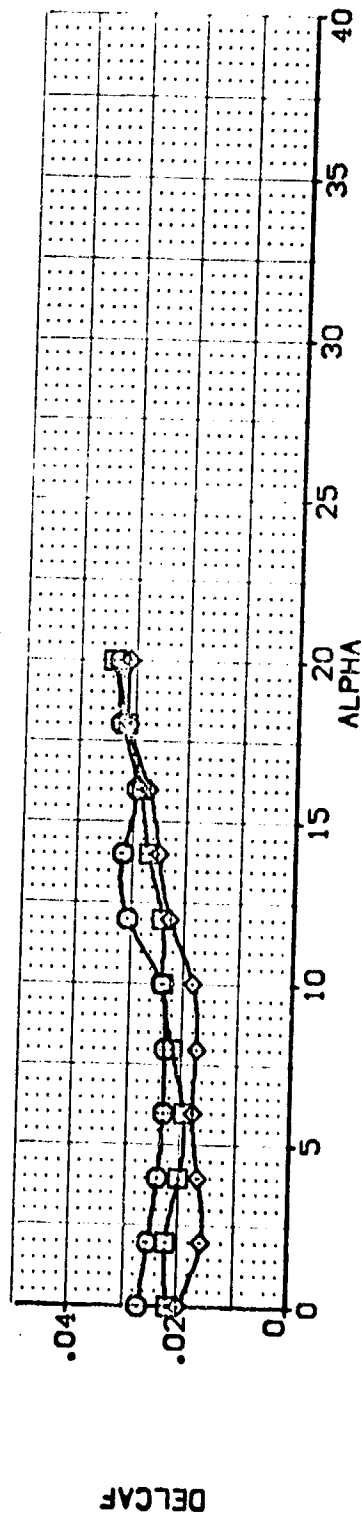
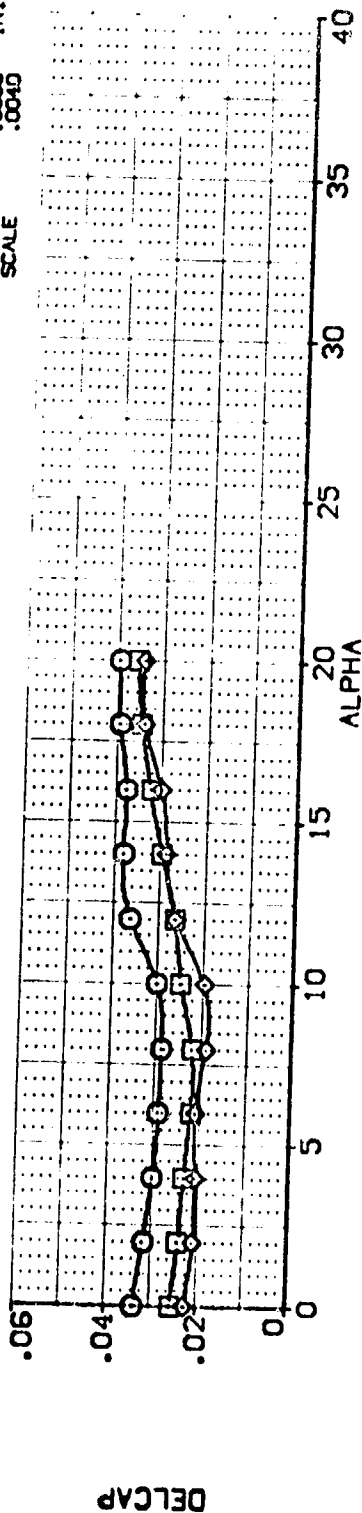
(G)MACH = 4.96

192005
192003
192115
192107
192017

MSC 5810A49) 078 34-0 (BCFH) (VE)(VR)
MSC 53110A49) 078 34-0 (BCFH) (VE)(VR)
MSC 5810A49) 078 34-0 (BCFH)(VE)(VR)
DATA NOT AVAILABLE
DATA NOT AVAILABLE

DELEVR	ROFLAP	SPDRBK	ALLRON
12.630	-11.700	25.550	-1.680
12.630	16.300	25.550	-1.680
12.630	22.600	25.550	-1.680
8.570	-11.700	25.550	-1.680
8.570	16.300	25.550	-1.680

REFERENCE INFORMATION		
	IN.	FT
SREF	2741.8000	
LREF	481.6480	
BREF	936.7000	
XREF	1081.3900	
YREF	.0000	
ZREF	.0000	
SCALE	.0040	



BODY FLAP - ELEVEN INTERACTION (INC. FROM 4.16 DEGREE ELEVEN)



DATA SET SYMBOL

CONFIGURATION DESCRIPTION

PS2005 S31 (DA49) D33 34-0 (BOTH) (VE)(VR)
 PS2008 S31 (DA49) D33 34-0 (BOTH) (VE)(VR)
 PS2116 S31 (DA49) D33 34-0 (BOTH) (VE)(VR)
 PS2107 DATA NOT AVAILABLE
 PS2017 DATA NOT AVAILABLE

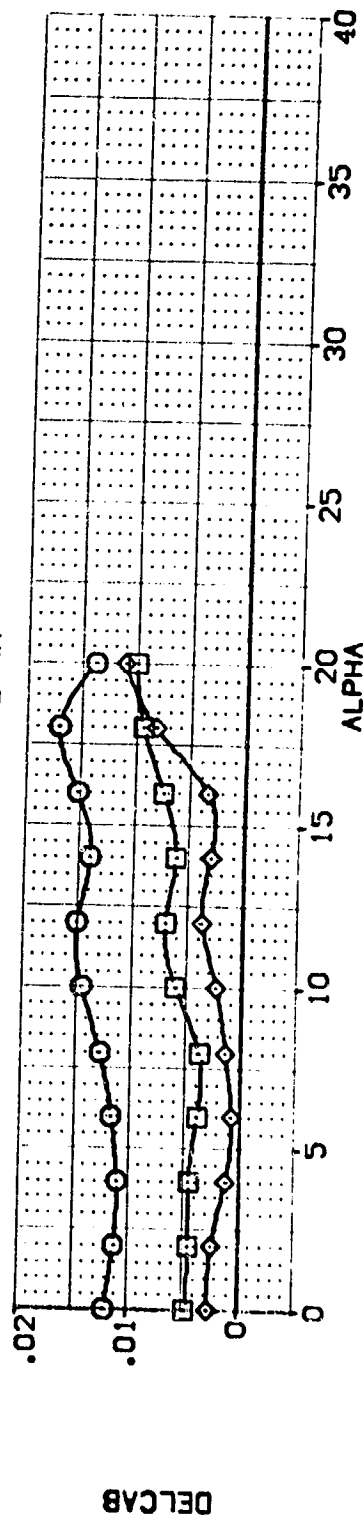
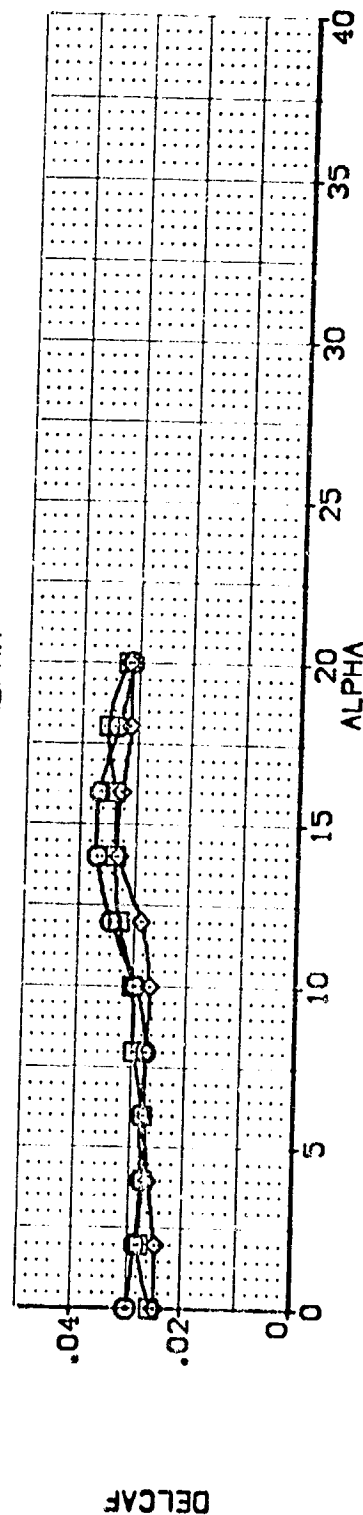
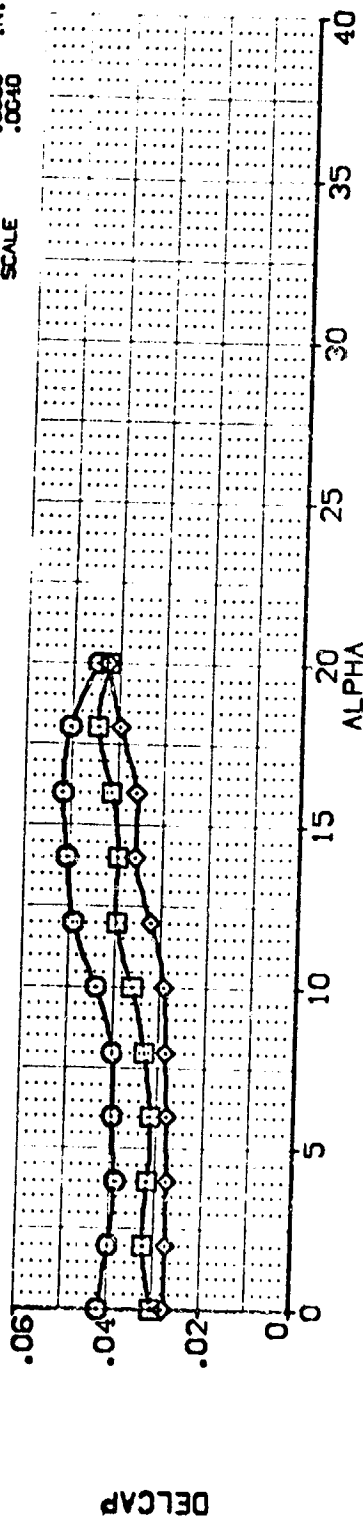
DELEVR 12.630
 12.630
 12.630
 8.970

BOFLAP -11.700
 16.300
 22.600
 -11.700

SPDPRK 23.550
 23.550
 23.550
 23.550

AILRON -1.680
 -1.680
 -1.680
 -1.650

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 441.6480 IN.
 SREF 536.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



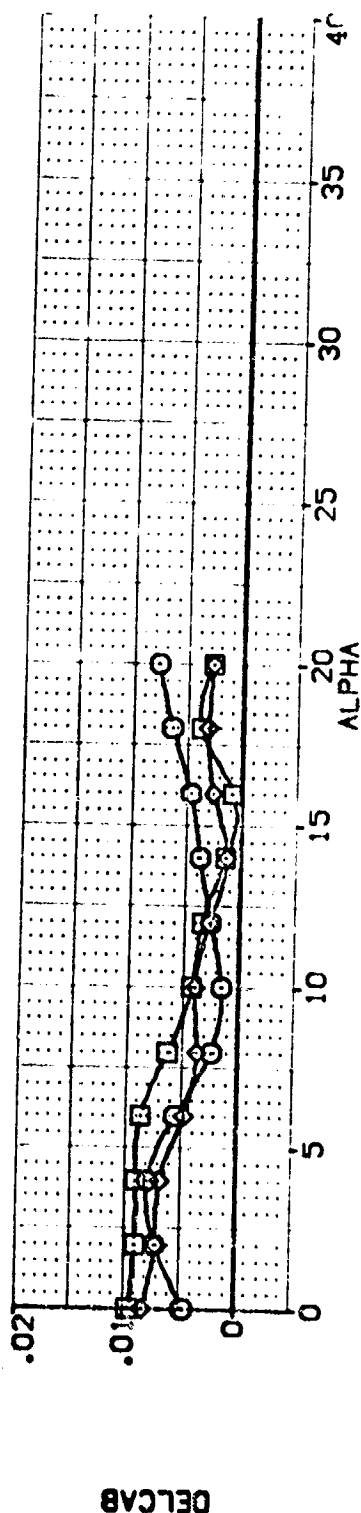
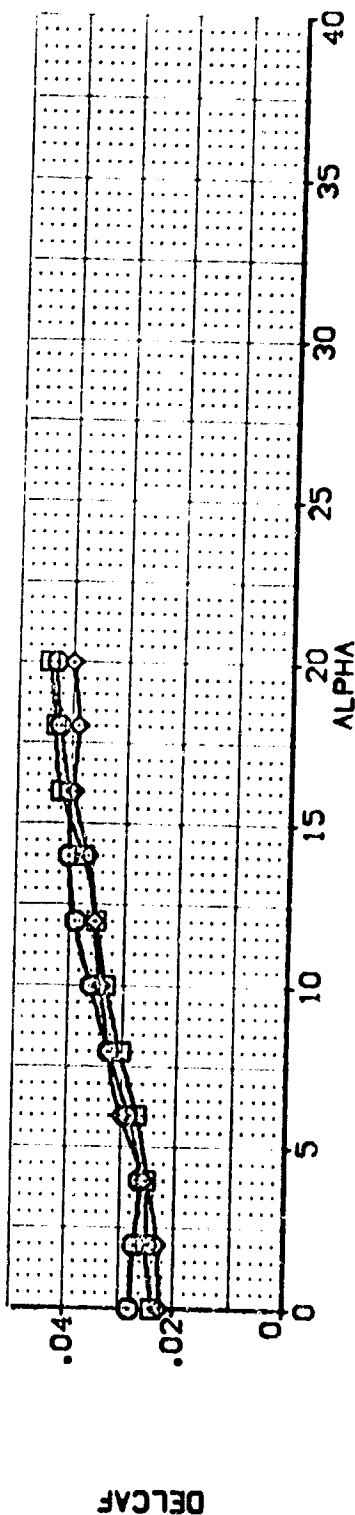
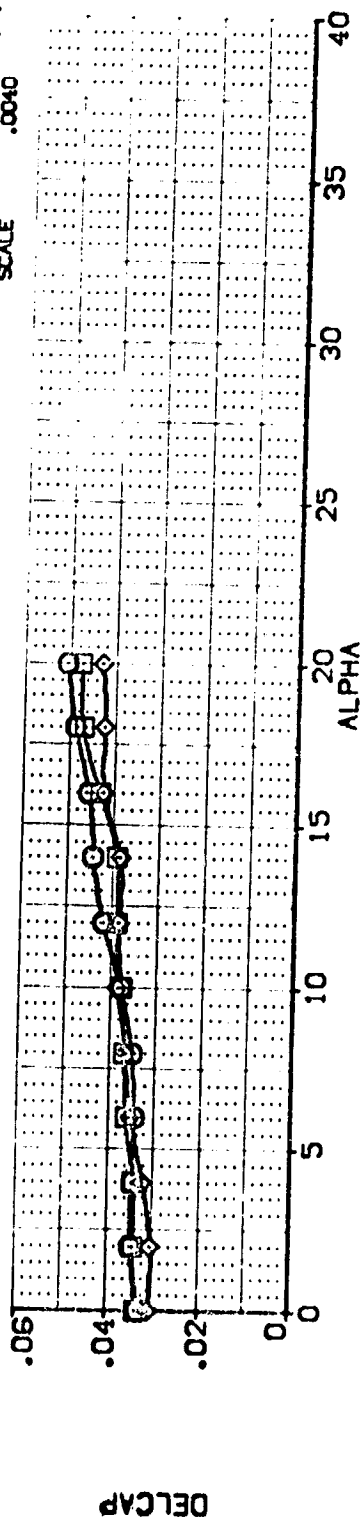
BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(8)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [MS2005] MSFC S31(CA49) DB 34-0 (BOFM) (VE)(VR)
 [MS2003] MSFC S31(CA49) DB 34-0 (BOFM) (VE)(VR)
 [MSA116] MSFC S31(CA49) DB 34-0 (BOFM) (VE)(VR)
 [MS2107] DATA NOT AVAILABLE
 [MS2017] DATA NOT AVAILABLE

DELEV R BOFLAP SPOROX AILRON
 12.630 -11.700 25.550 -1.680
 12.630 16.300 25.550 -1.680
 12.630 22.600 25.550 -1.680
 8.970 -11.700 25.550 -1.680
 8.970 16.300 25.550 -1.680

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(C)MACH = 1.19

DATA SET SYMBOLS: (MS2005) (MS2008) (MS2115) (MS2107) (MS2017)

CONFIGURATION DESCRIPTION: MSFC 591 (0A49) 028 34-0 (80PM) (VE) (VR) MSFC 591 (0A49) 028 34-0 (80PM) (VE) (VR) DATA NOT AVAILABLE DATA NOT AVAILABLE DATA NOT AVAILABLE

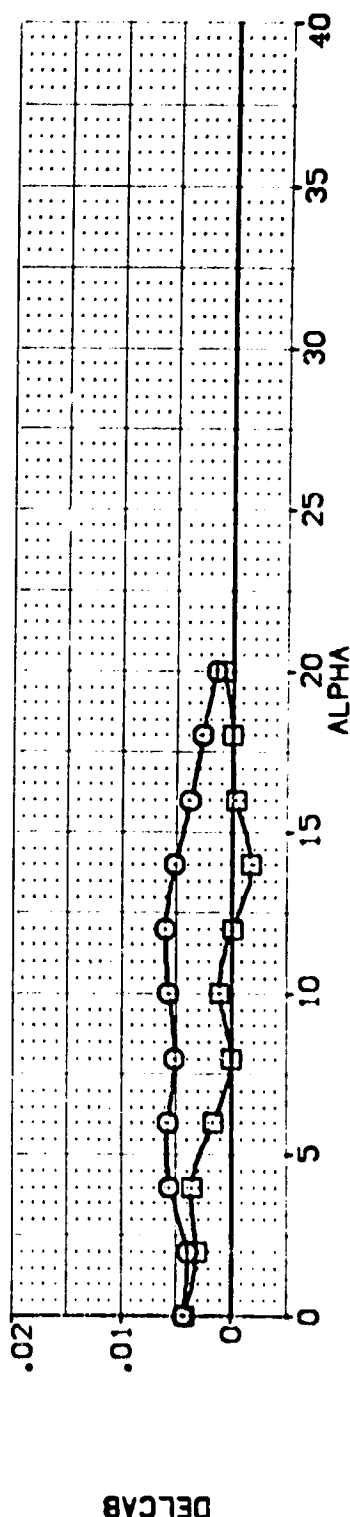
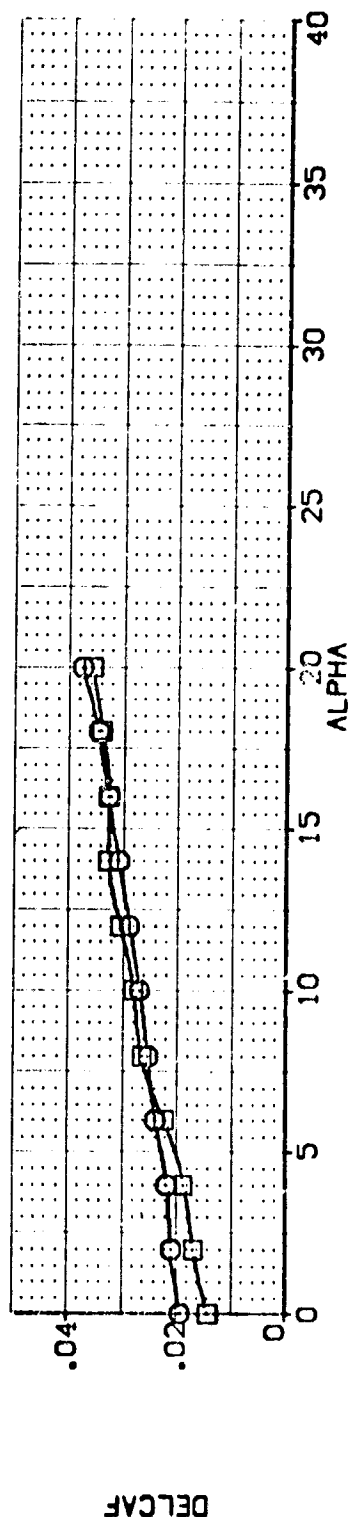
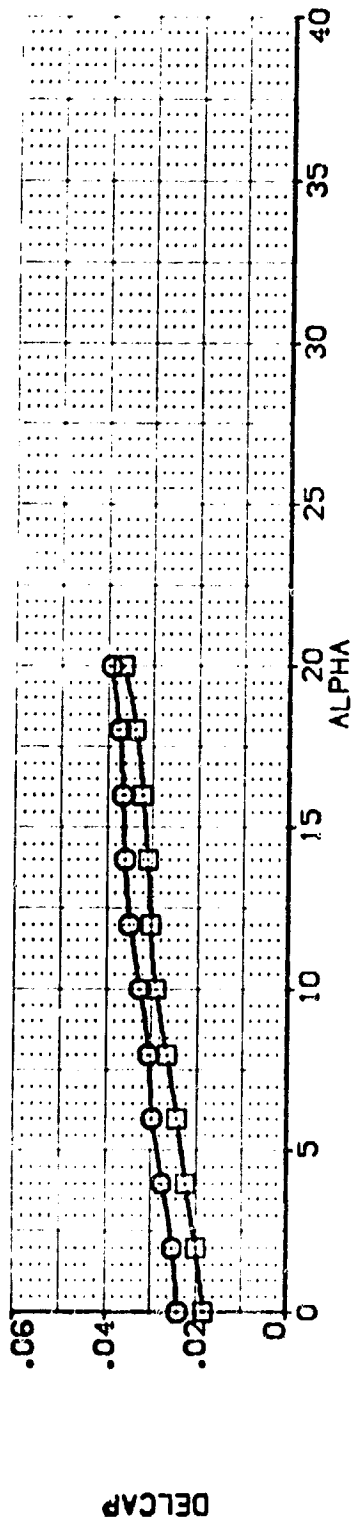
DELEV 12.630 12.630 12.630 8.970 8.970

BDPLAP -11.700 -11.700 -11.700 -11.700 -11.700

SPDRK 25.550 25.550 25.550 25.550 25.550

ALRON -1.680 -1.680 -1.680 -1.680 -1.680

REFERENCE INFORMATION: SREF 2741.8000 92. FT LREF 481.6480 IN: BREF 936.7000 IN: XREF 1081.3500 IN: YREF .0000 IN: ZREF .0000 IN: SCALE .0040



BODY FLAP - ELEVEN INTERACTION (INC. FROM 4.16 DEGREE ELEVEN)

(D)MACH = 1.45

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[M2005]
[M2008]
[M2116]
[M2107]
[M2017]

M2C S81(OA49) CRB 34-0 (BDTH) (VE)(VR)
M2C S81(OA49) CRB 34-0 (BDTH) (VE)(VR)
M2C S81(OA49) CRB 34-0 (BDTH) (VE)(VR)
DATA NOT AVAILABLE
DATA NOT AVAILABLE

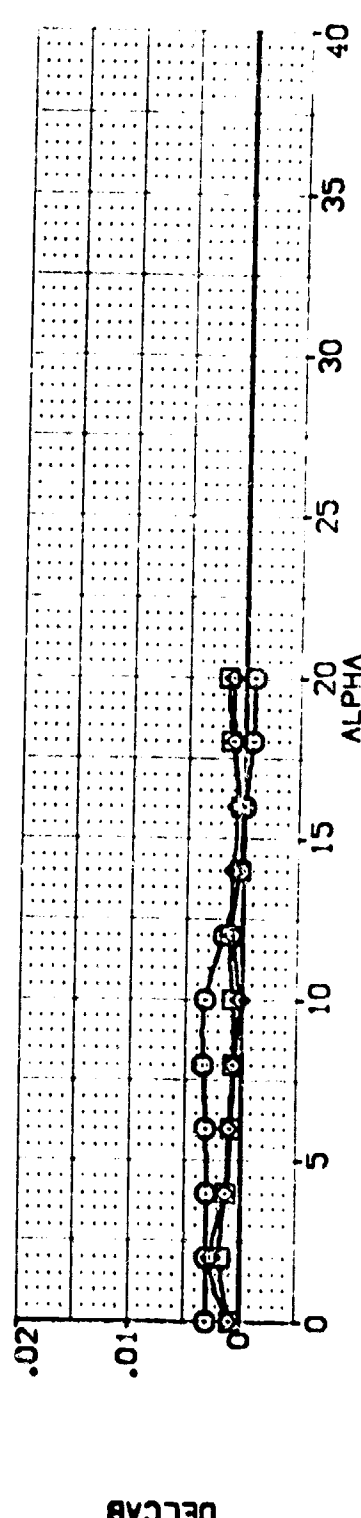
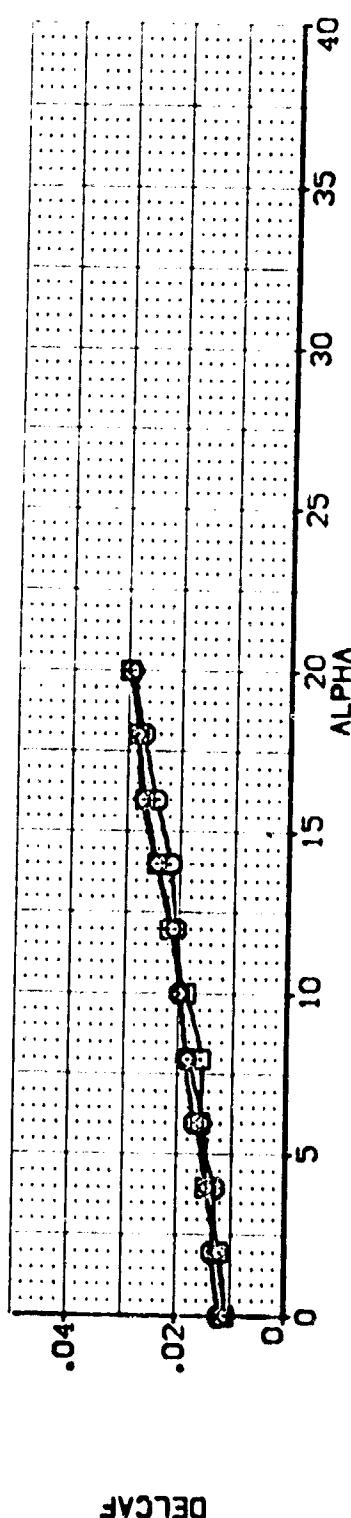
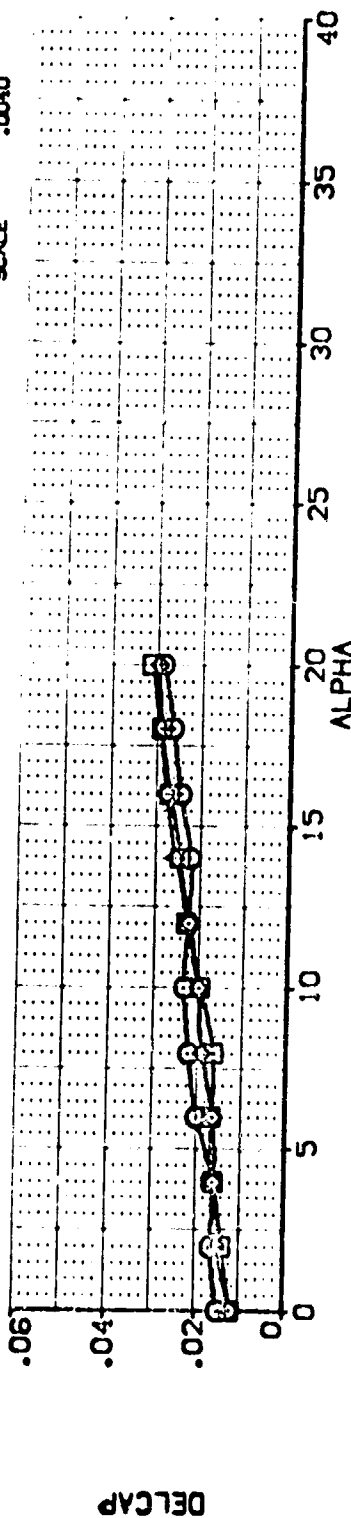
DELEVR 12.630
12.630
12.630
8.970

BOFLAP -11.700
16.300
22.600
-11.700
16.300

SPDRK 23.550
23.550
23.550
23.550

AILRON -1.680
-1.680
-1.680
-1.650

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XREF 1081.3800 IN.
YREF .0000 IN.
ZREF .0040 IN.
SCALE



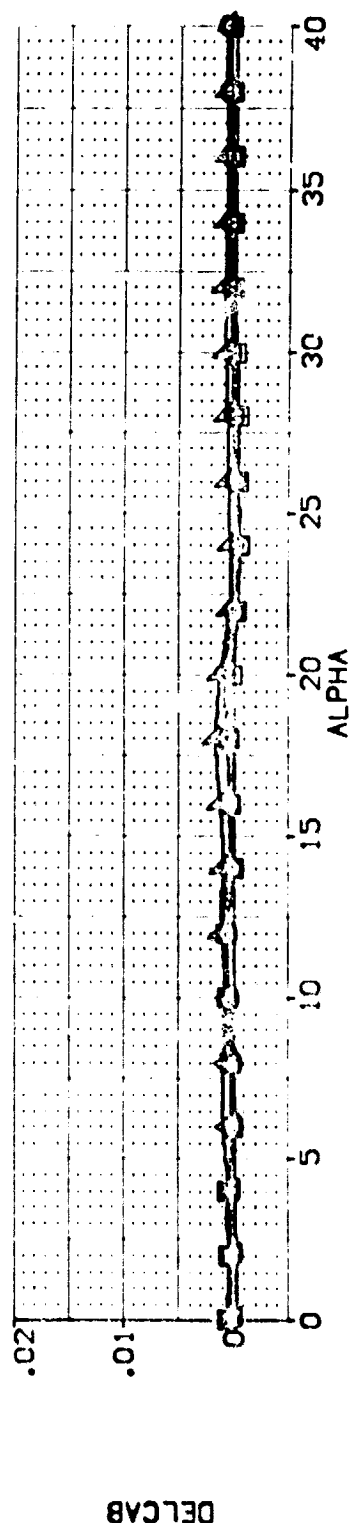
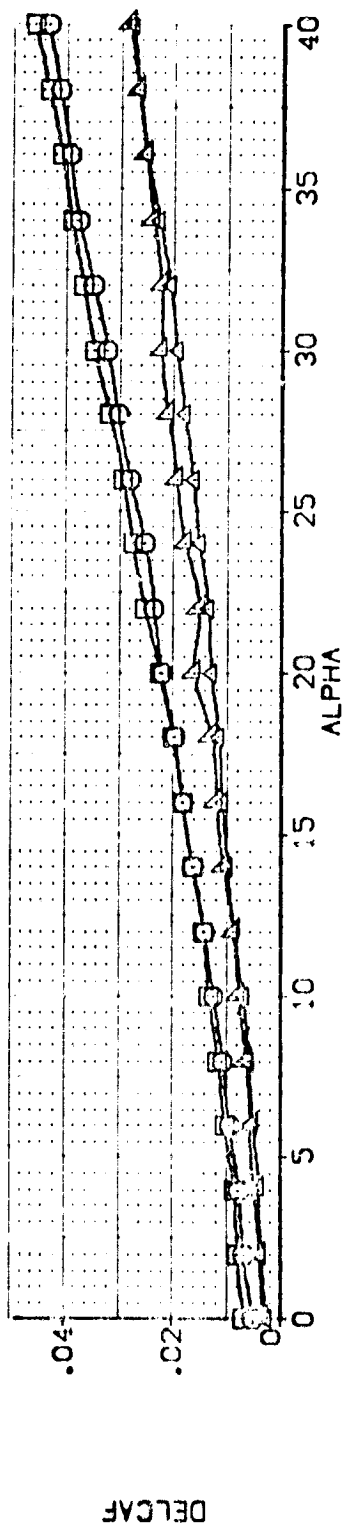
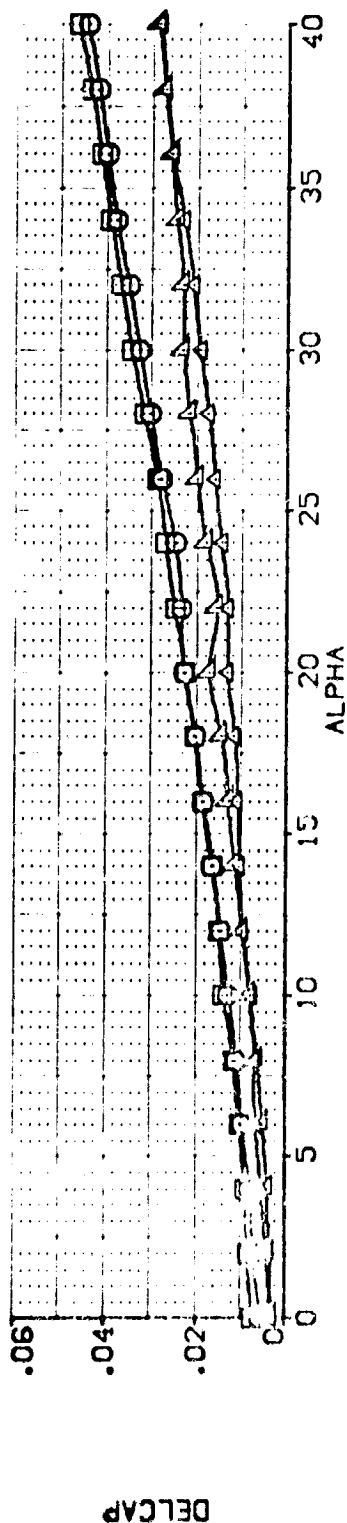
BODY FLAP - ELEVEN INTERACTION (INC. FROM 4.16 DEGREE ELEVEN)

(E)MACH = 1.96



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDFLAP	SPDRK	AILON	SPREF	2741.8000	80. FT
[M2005]	MSC 581(CA49) DB 3A-0 (BDFH) (VE)(VR)	12.630	-11.700	23.550	-1.680	LREF	481.6480	IN.
[M2006]	MSC 581(CA49) DB 3A-0 (BDFH) (VE)(VR)	12.630	16.300	23.550	-1.680	BREF	936.7000	IN.
[M2007]	DATA NOT AVAILABLE	12.630	22.300	23.550	-1.680	XREF	1081.3500	IN.
[M2008]	MSC 581(CA49) DB 3A-0 (BDFH) (VE)(VR)	8.570	-11.700	23.550	-1.680	YREF	.0000	IN.
[M2009]	MSC 581(CA49) DB 3A-0 (BDFH) (VE)(VR)	8.570	16.300	23.550	-1.680	ZREF	.0000	IN.
						SCALE	.0010	



BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(F)MACH = 2.99

DATA SET SYMBOL

MS2005
MS2008
MS2116
MS2107
MS2017

CONFIGURATION DESCRIPTION

MSFC 581(0A49) DB 34-0 (BCFM) (VE)(VR)
MSFC 581(0A49) DB 34-0 (BCFM) (VE)(VR)
DATA NOT AVAILABLE
MSFC 581(0A49) DB 34-0 (BCFM) (VE)(VR)
MSFC 581(0A49) DB 34-0 (BCFM) (VE)(VR)

DELEVR 12.630
12.630
12.630
8.970
8.970

BOFLAP

-11.700
16.300
22.500
-11.700
16.300

AILRON

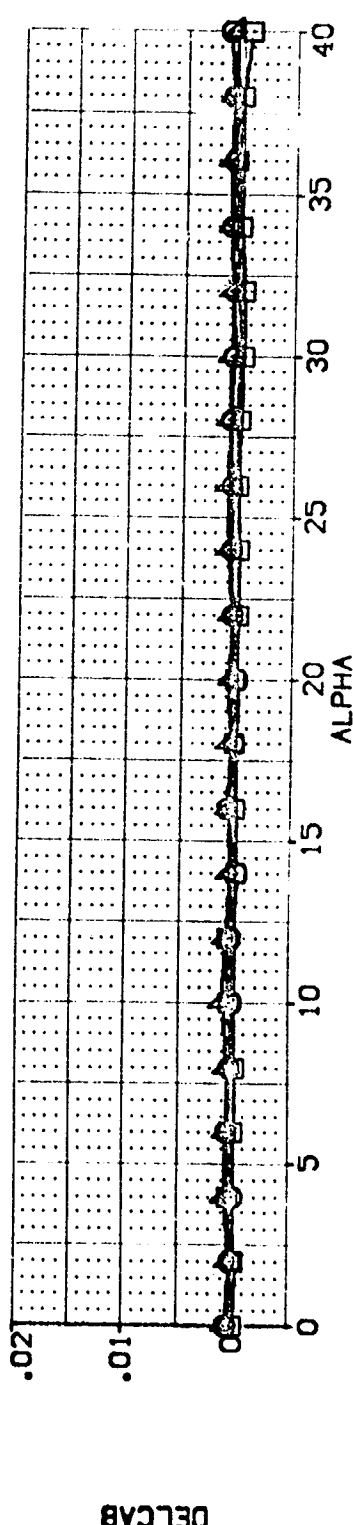
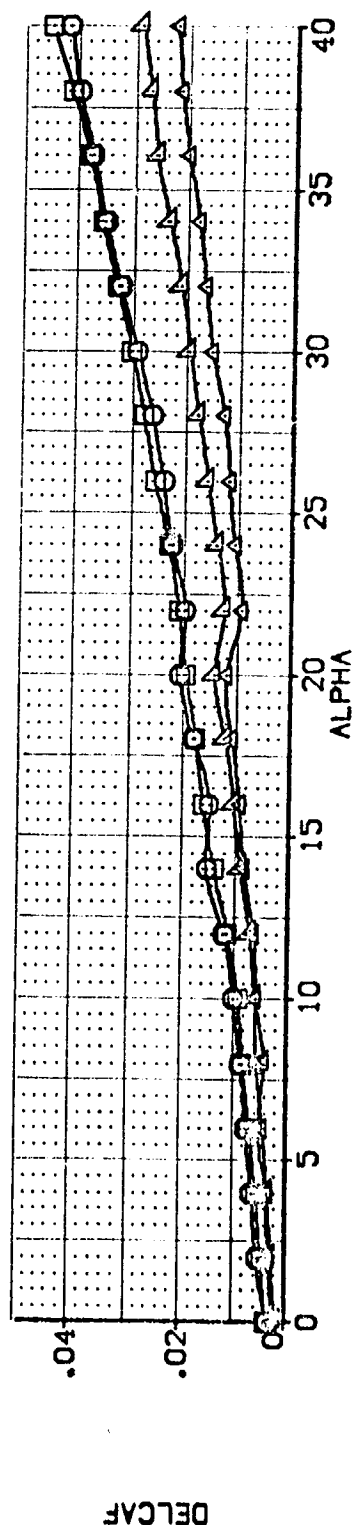
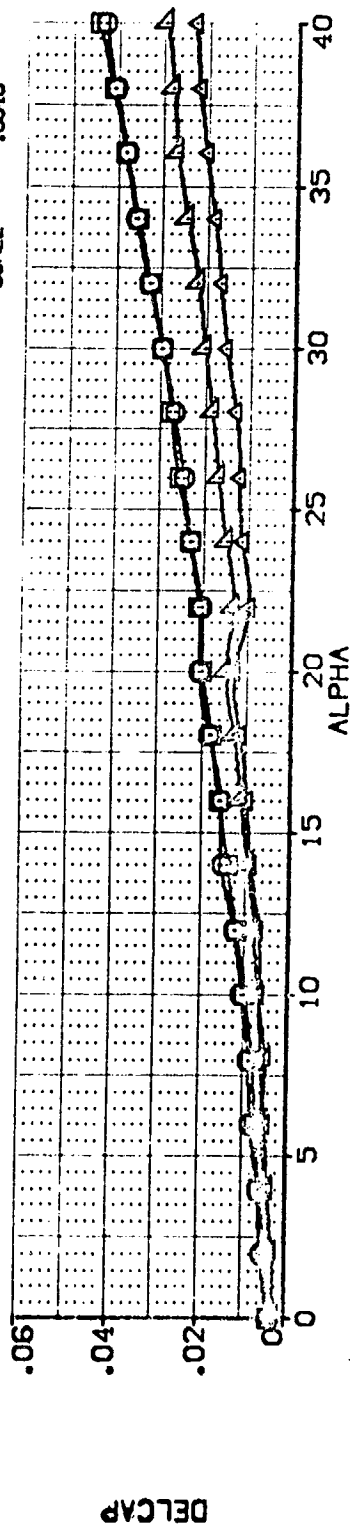
-1.680
-1.680
-1.680
-1.680
-1.680

SPDRK

25.550
25.550
25.550
25.550
25.550

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 535.7000 IN.
XREF 1081.9500 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0010



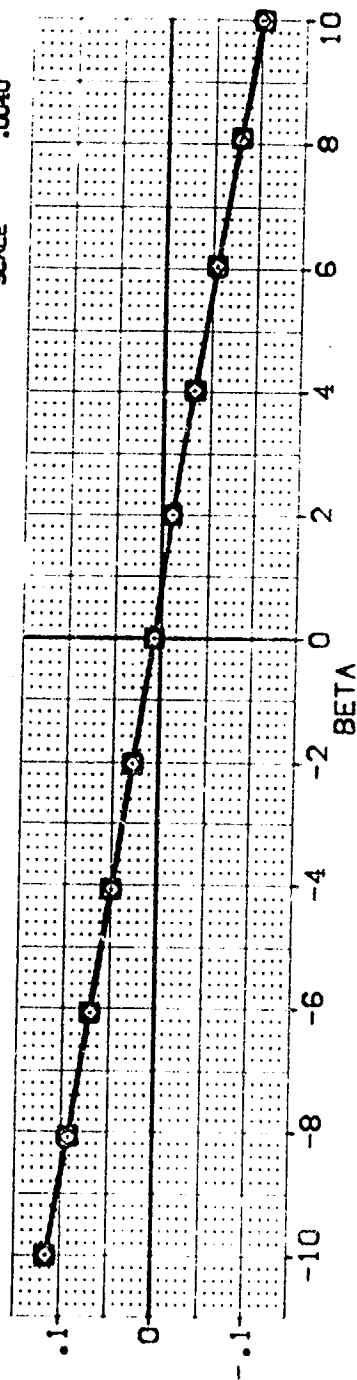
BODY FLAP - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(G)MACH = 4.96

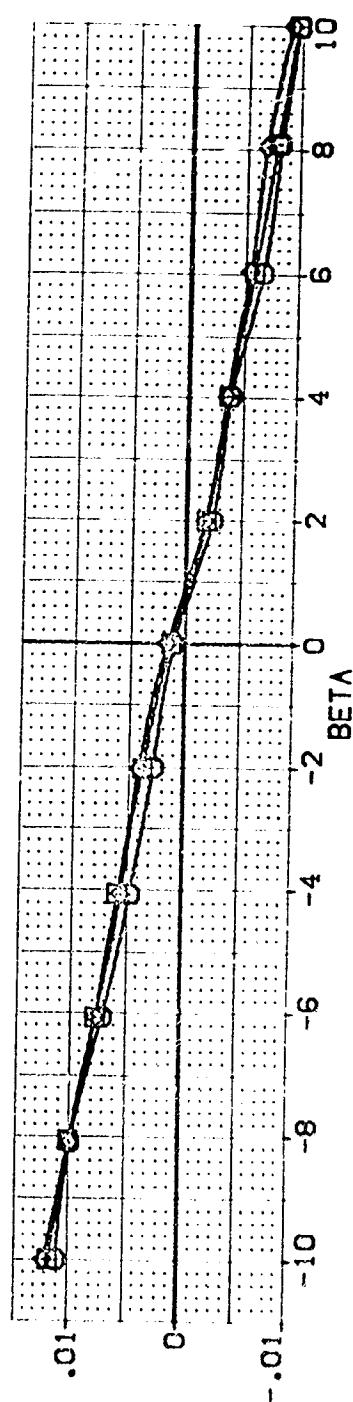
DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [R2022] MSC 581(0A19) 0R8 34-0 (BCH) (VE)(VR)
 [R2030] MSC 581(0A19) 0R8 34-0 (BCH) (VE)(VR)
 [R2031] MSC 581(0A19) 0R8 34-0 (BCH) (VE)(VR)

ELEVTR AILRON SPDRBK RUDDER
 4.180 -.670 .000
 -4.310 -.630 .000
 -15.550 -.400 .000

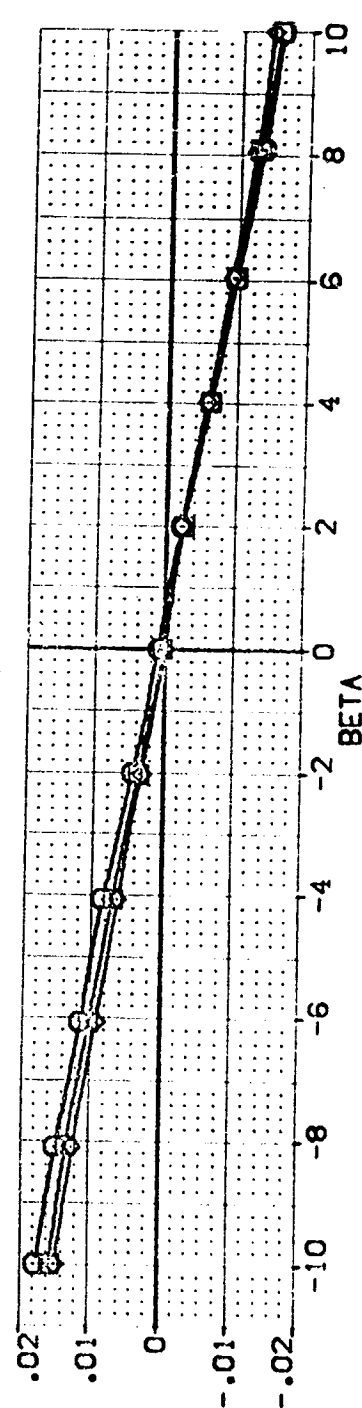
REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



Cyl



CYN



CBL

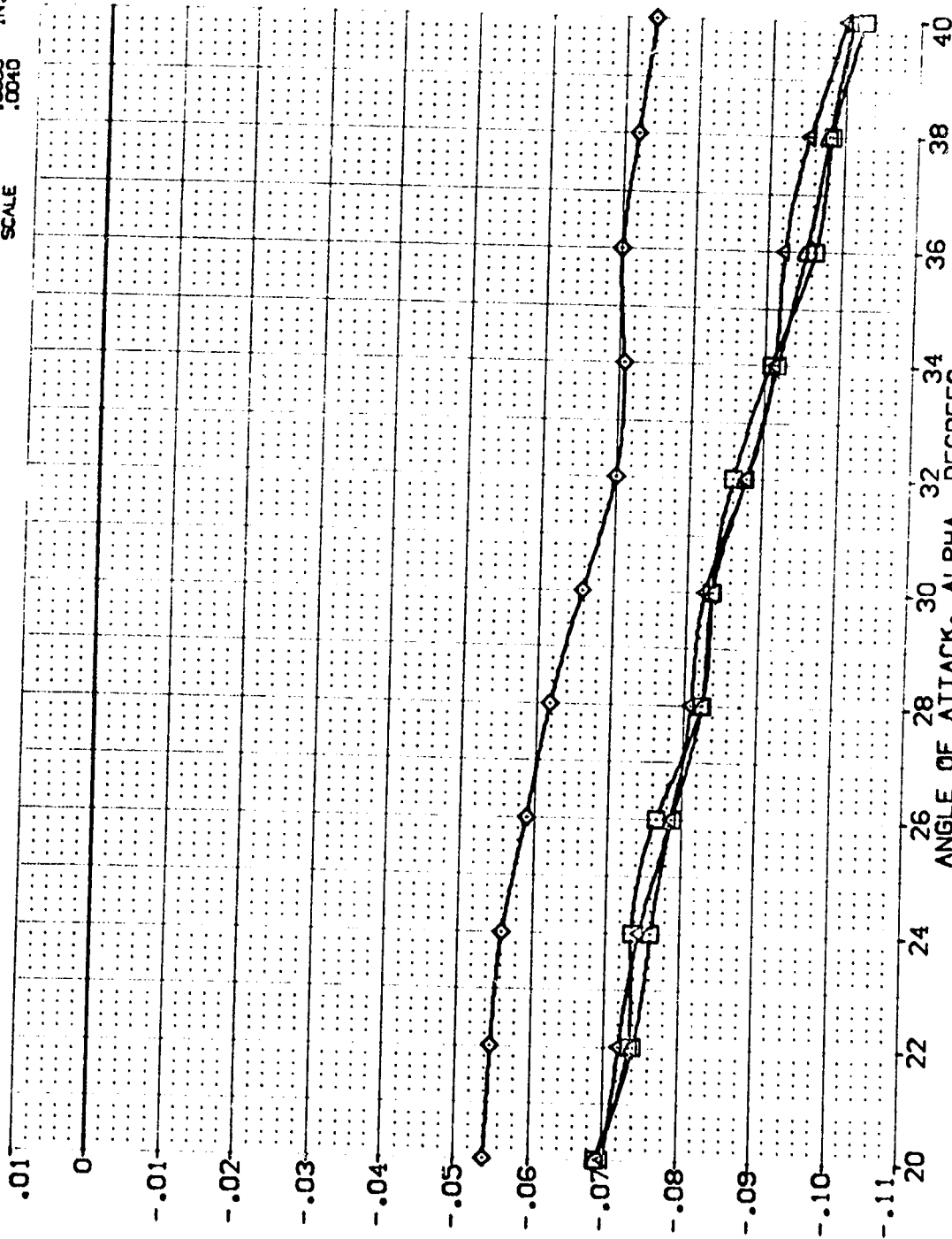
EFFECT OF ELEVONS ON LATERAL-DIRECTIONAL CHARACTERISTICS (ALPHA = 20 DEGREES)

CAJMACP = 4.96



DATA SET SYMBOL CONFIGURATION DESCRIPTION
[M2150] DATA NOT AVAILABLE
[M2151] MSFC S31(0A49) C33 34-0 (BOFM)(VE)(VR)
[M2152] MSFC S31(0A49) C33 34-0 (BOFM)(VE)(VR)
[M2153] MSFC S31(0A49) C33 34-0 (BOFM)(VE)(VR)
[M2154] DATA NOT AVAILABLE
[M2155] MSFC S31(0A49) C33 34-0 (BOFM)(VE)(VR)
[M2156] DATA NOT AVAILABLE

DELEVR BOFLAF SPDBRK AILRON REFERENCE INFORMATION
-19.710 -11.700 25.000 -400 SREF 2741.800 100. FT
-37.810 -11.700 25.000 -400 LREF 481.6480 IN.
-19.710 -11.700 25.500 -400 BREF 536.7000 IN.
-37.810 -11.700 25.500 -400 XREF 1081.3900 IN.
-19.710 -11.700 85.000 -400 YREF 1000 IN.
-37.810 -11.700 85.000 -400 ZREF 1000 IN.
SCALE 1000



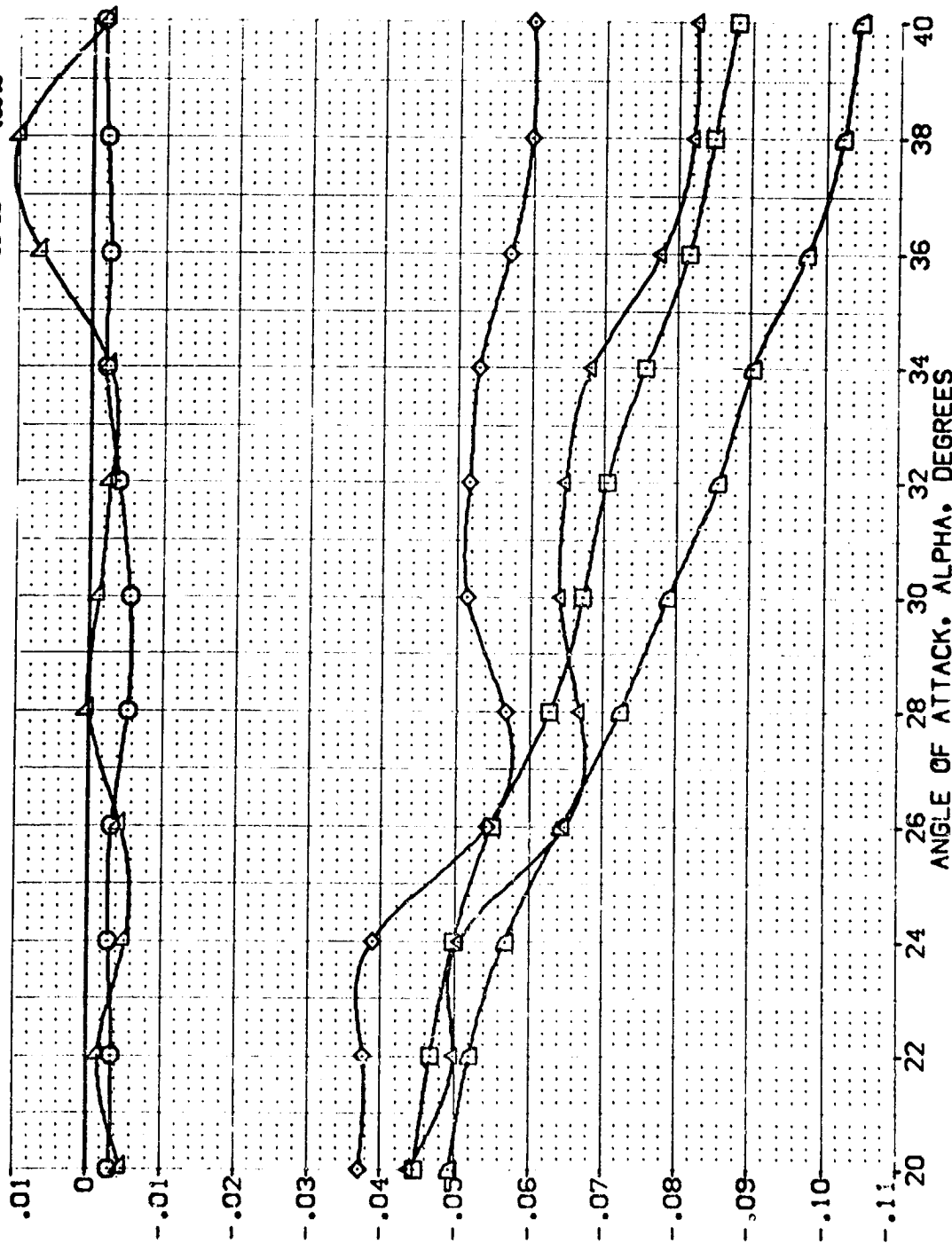
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

SPEED BRAKE - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(M)MACH = 2.99

[illegible]

DELEVR	BOFLAP	SPDRK	AI LRON	REFERENCE INFORMATION	SG. FT
-19.710	-1.700	25.000	-400	SREF	2741.8000
-37.910	-1.700	23.000	-320	LREF	481.5480
-9.710	-1.700	23.500	-400	SREF	936.7000
-37.910	-1.700	23.500	-320	XMRP	1081.3900
-19.710	-1.700	85.000	-400	XMRP	0.0000
-37.810	-1.700	85.000	-320	ZMRP	0.0000
				SCALE	0040



SPEED BRAKE - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(B)MACH = 4.96

DATA SET SYMBOLS

[MS2150]
 [MS2151]
 [MS2152]
 [MS2153]
 [MS2154]

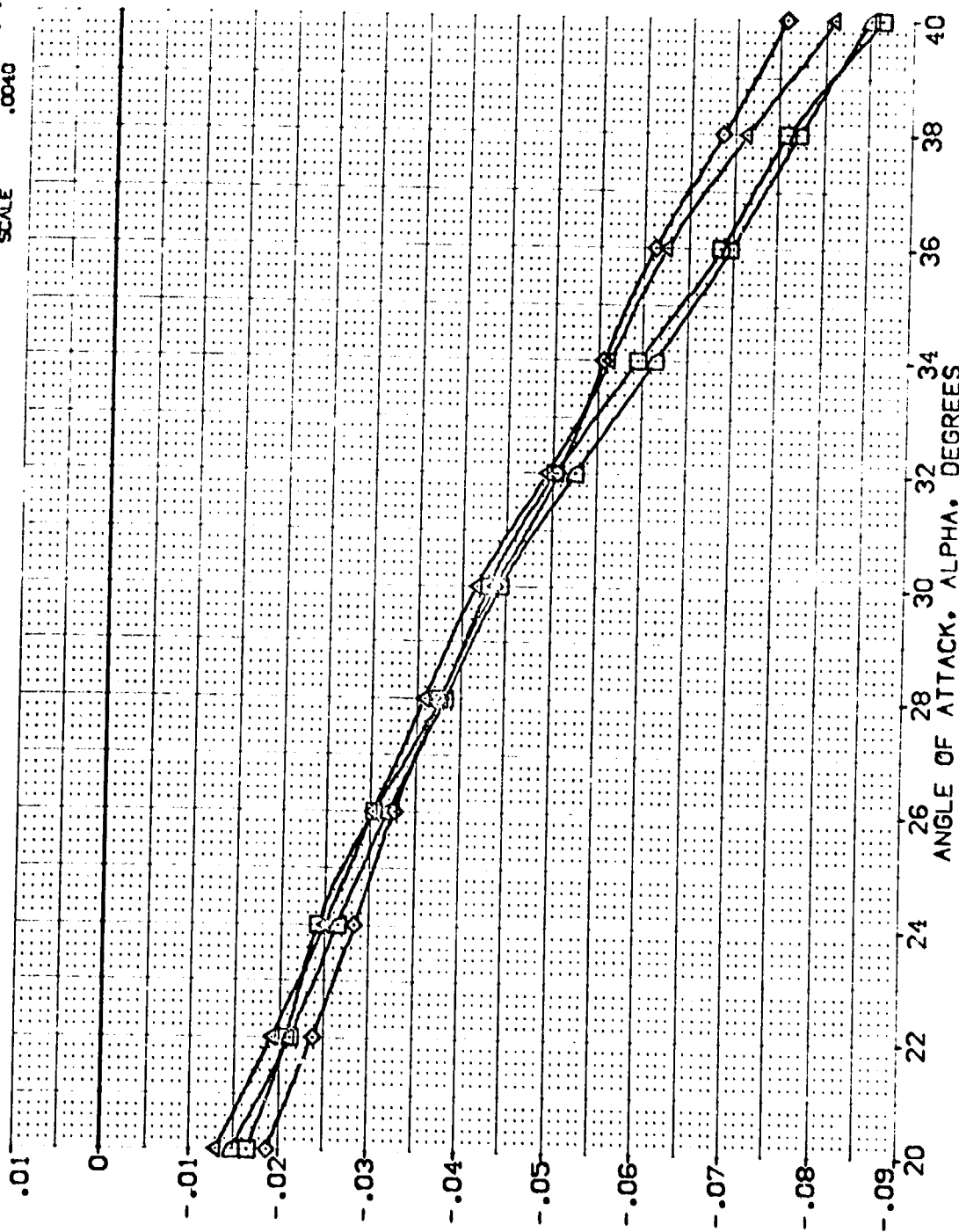
CONFIGURATION DESCRIPTION

DATA NOT AVAILABLE
 MSFC 501(CA49) 078 34-0 (BOFM)(VE)(VR)
 MSFC 501(CA49) 078 34-0 (BOFM)(VE)(VR)
 MSFC 501(CA49) 078 34-0 (BOFM)(VE)(VR)
 DATA NOT AVAILABLE
 MSFC 501(CA49) 078 34-0 (BOFM)(VE)(VR)

DELEV R BOCLAP SPDRBY AIRLEN
 -19.710 -11.700 25.000 -400
 -37.810 -11.700 25.000 -320
 -19.710 -11.700 25.000 -400
 -37.810 -11.700 25.000 -320
 -19.710 -11.700 85.000 -400
 -37.810 -11.700 85.000 -320

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.5480 IN.
 BREF 935.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040

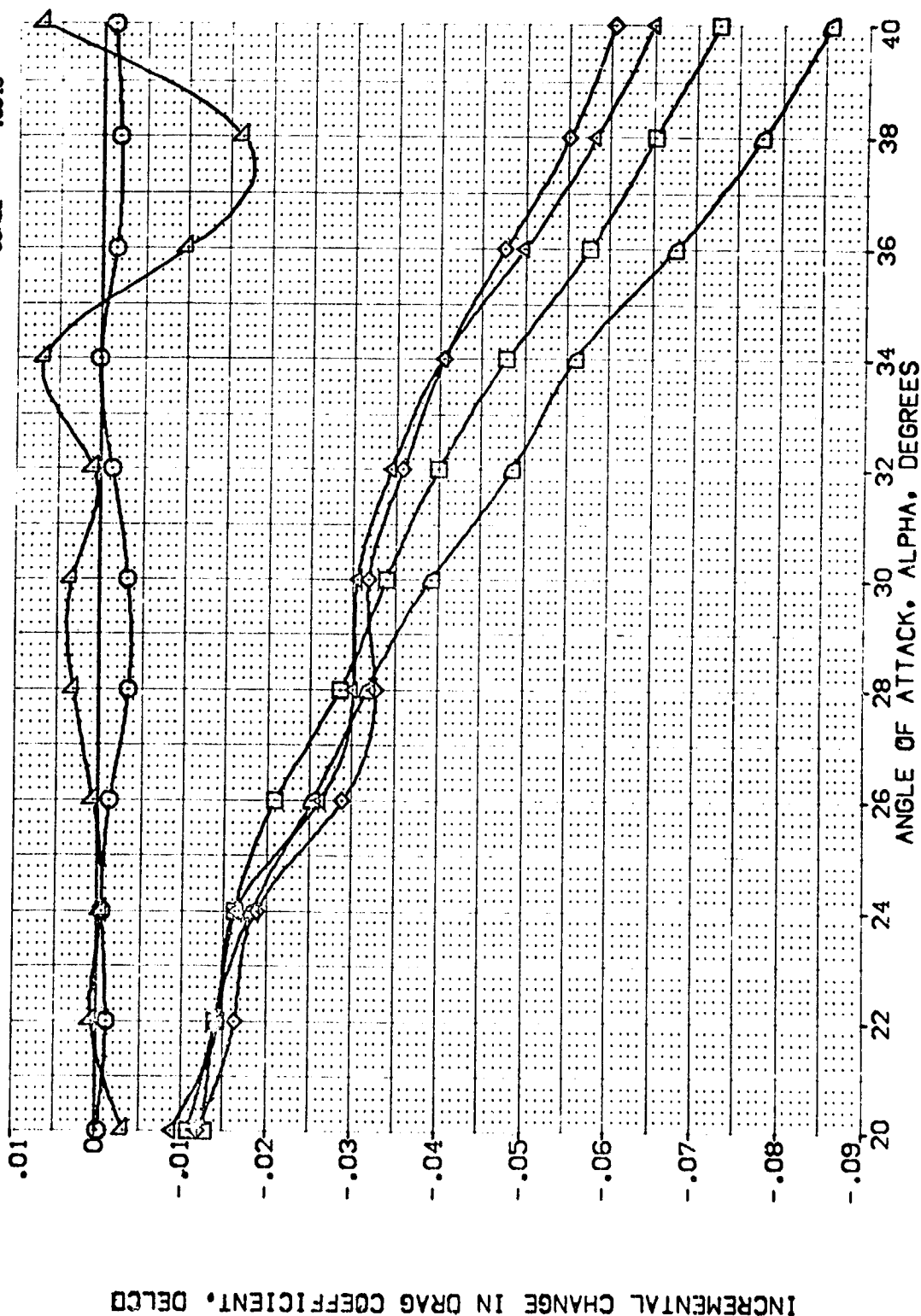
INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



SPEED BRAKE - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(A)MACH = 2.99

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BOFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
[M2150]	SEC 531(CA9) C83 34-0 (BOFH)(VE)(VR)	-19.710	-11.700	25.000	-400	SREF 2741.8000 SQ. FT
[M2120]	SEC 531(CA9) C83 34-0 (BOFH)(VE)(VR)	-37.810	-11.700	25.000	-320	LREF 481.6480 IN.
[M2010]	SEC 531(CA9) C83 34-0 (BOFH)(VE)(VR)	-19.710	-11.700	25.550	-400	BREF 936.7000 IN.
[M2009]	SEC 531(CA9) C83 34-0 (BOFH)(VE)(VR)	-37.810	-11.700	25.550	-320	XTRP 1081.3500 IN.
[M2159]	SEC 531(CA9) C83 34-0 (BOFH)(VE)(VR)	-19.710	-11.700	65.000	-400	YTRP .0000 IN.
[M2122]	SEC 531(CA9) C83 34-0 (BOFH)(VE)(VR)	-37.810	-11.700	65.000	-320	ZTRP .0000 IN.
						SCALE .0040

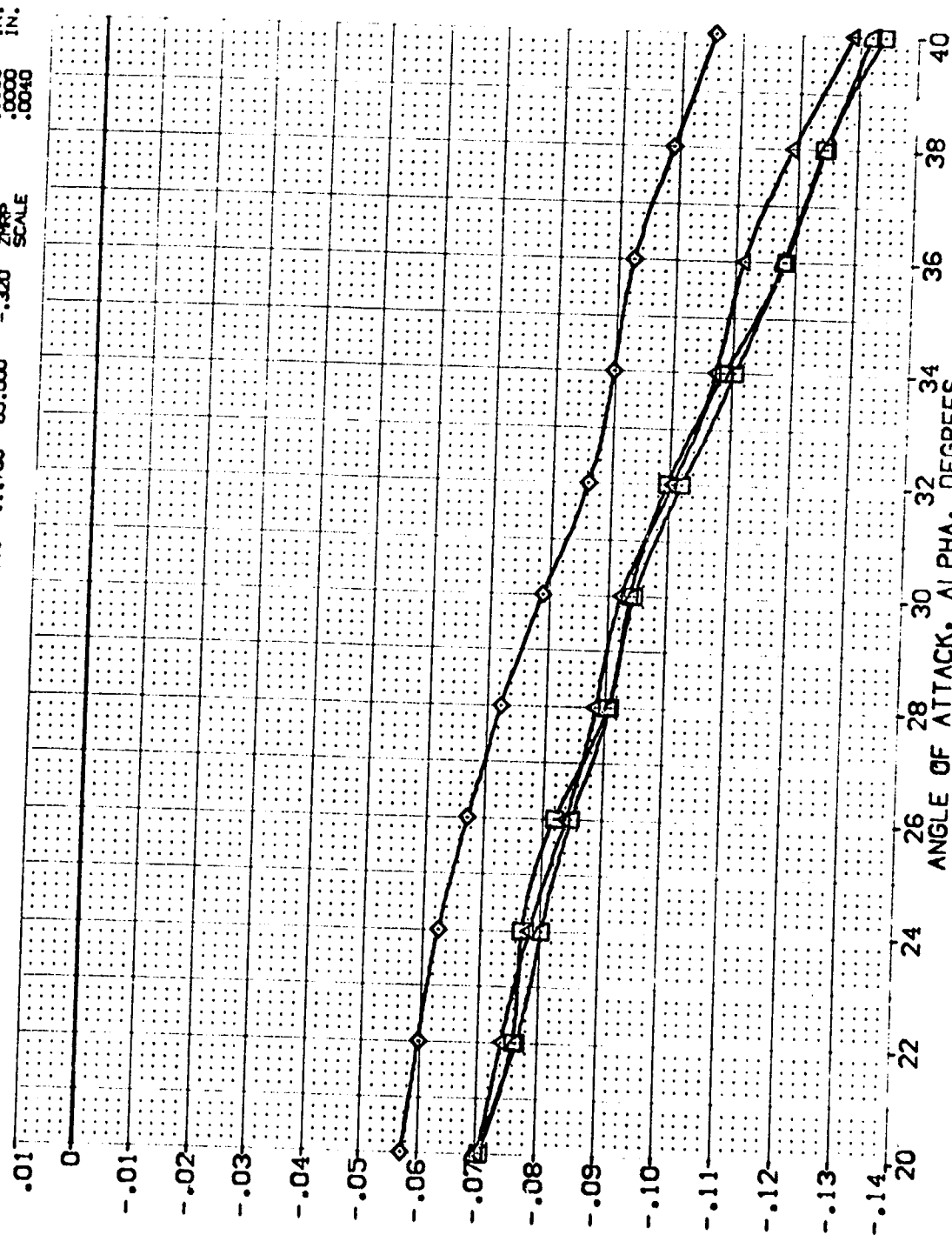




INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(M2160) DATA NOT AVAILABLE
(M2170) MSFC 581 (CA49) 053 34-0 (BOFM) (VE) (VR)
(M22010) MSFC 581 (CA49) 053 34-0 (BOFM) (VE) (VR)
(M22003) MSFC 581 (CA49) 053 34-0 (BOFM) (VE) (VR)
(M22159) DATA NOT AVAILABLE
(M22122) MSFC 581 (CA49) 053 34-0 (BOFM) (VE) (VR)

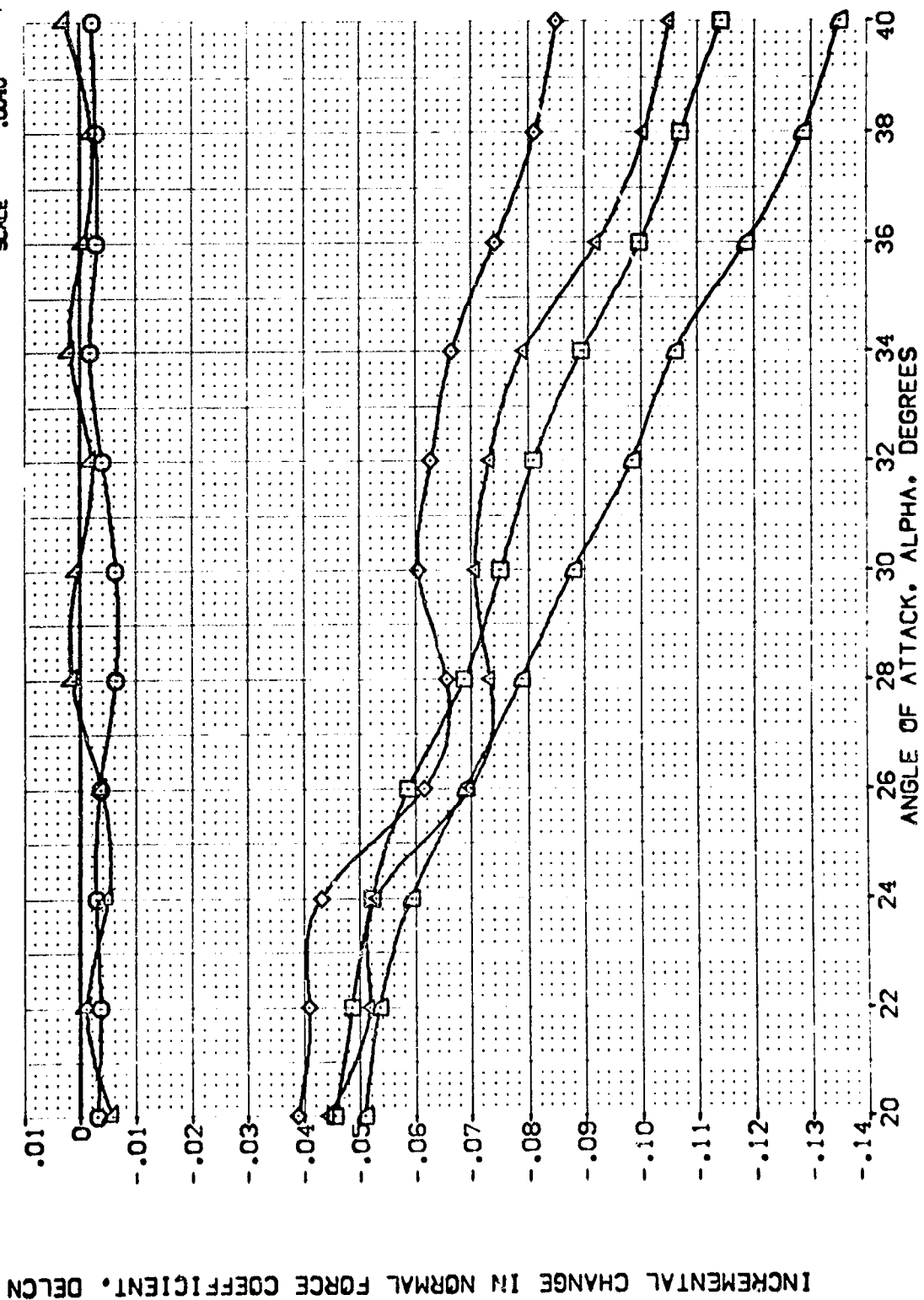
DELEVR BOFLAP SPDBRK AILRON REFERENCE INFORMATION
-19.710 -11.700 25.000 -400 SREF 2741.8000 50. FT
-37.810 -11.700 25.000 -320 LREF 481.6480 IN.
-19.710 -11.700 25.550 -400 BREF 936.7000 IN.
-37.810 -11.700 25.550 -320 XMRP 1081.3300 IN.
-19.710 -11.700 85.000 -400 YMRP .0000 IN.
-37.810 -11.700 85.000 -320 ZMRP .0040 IN.
SCALE



SPEED BRAKE - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)
(A)MACH = 2.99

DATA SET SYMBOL CONFIGURATION DESCRIPTION

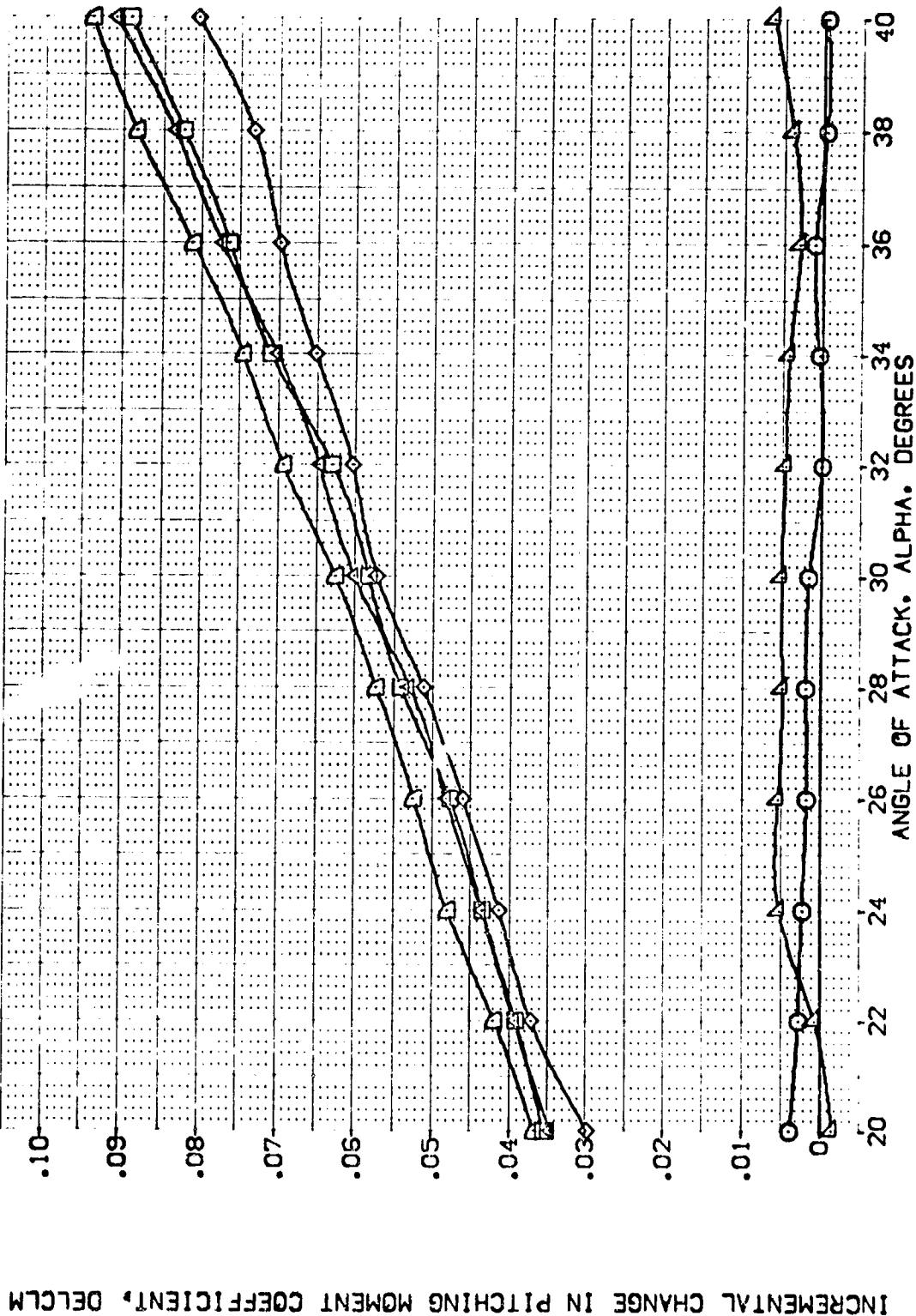
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDFLAP	SPOBRK	AILRON	REFERENCE INFORMATION
(H2160)	MSFC 501(CA49) 058 34-0 (BDPH)(VE)(VR)	-19.710	-11.700	25.000	-400	SREF 2741.8000 SQ. FT
(H2120)	MSFC 501(CA49) 058 34-0 (BDPH)(VE)(VR)	-37.810	-11.700	25.000	-320	LREF 481.6480 IN.
(H22010)	MSFC 501(CA49) 058 34-0 (BDPH)(VE)(VR)	-19.710	-11.700	25.550	-400	BREF 936.7000 IN.
(H22008)	MSFC 501(CA49) 058 34-0 (BDPH)(VE)(VR)	-37.810	-11.700	25.550	-320	XREF 1081.3900 IN.
(H22159)	MSFC 501(CA49) 058 34-0 (BDPH)(VE)(VR)	-19.710	-11.700	85.000	-400	YREF .0000 IN.
(H2122)	MSFC 501(CA49) 058 34-0 (BDPH)(VE)(VR)	-37.810	-11.700	85.000	-320	ZREF .0040 IN.



SPEED BRAKE - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(B)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELEV	BDCLAP	SPOBRK	AILTRN	REFERENCE INFORMATION
(P22150)	PGC 531 (CA49) C28 34-0 (BCFM)(VE)(VR)	-19.710	-11.700	25.000	-400	SREF 2741.8000 SQ. FT
(P22120)	PGC 531 (CA49) C28 34-0 (BCFM)(VE)(VR)	-37.810	-11.700	25.000	-320	IREF 481.6480 IN.
(P22110)	PGC 531 (CA49) C28 34-0 (BCFM)(VE)(VR)	-19.710	-11.700	25.550	-400	BREF 536.7000 IN.
(P22129)	PGC 531 (CA49) C28 34-0 (BCFM)(VE)(VR)	-37.810	-11.700	25.550	-320	XREF 1081.3500 IN.
(P22159)	PGC 531 (CA49) C28 34-0 (BCFM)(VE)(VR)	-19.710	-11.700	85.000	-400	YREF .0000 IN.
(P22122)	PGC 531 (CA49) C28 34-0 (BCFM)(VE)(VR)	-37.810	-11.700	85.000	-320	ZREF .0000 IN.
						SCALE .0040

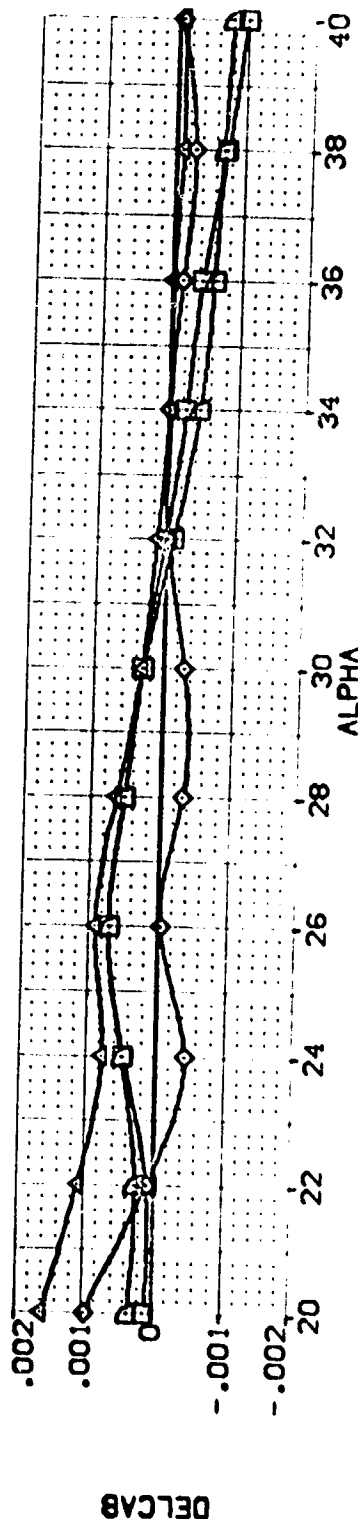
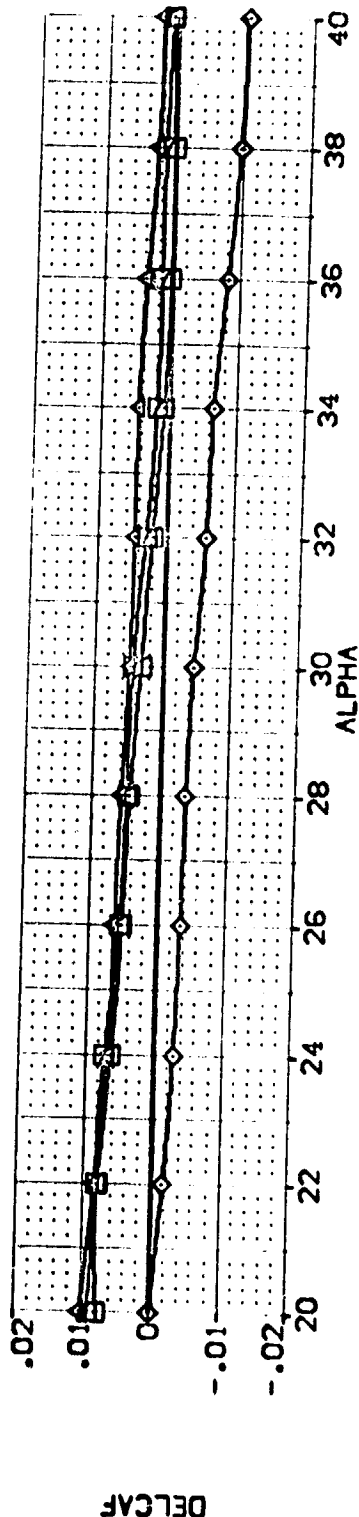
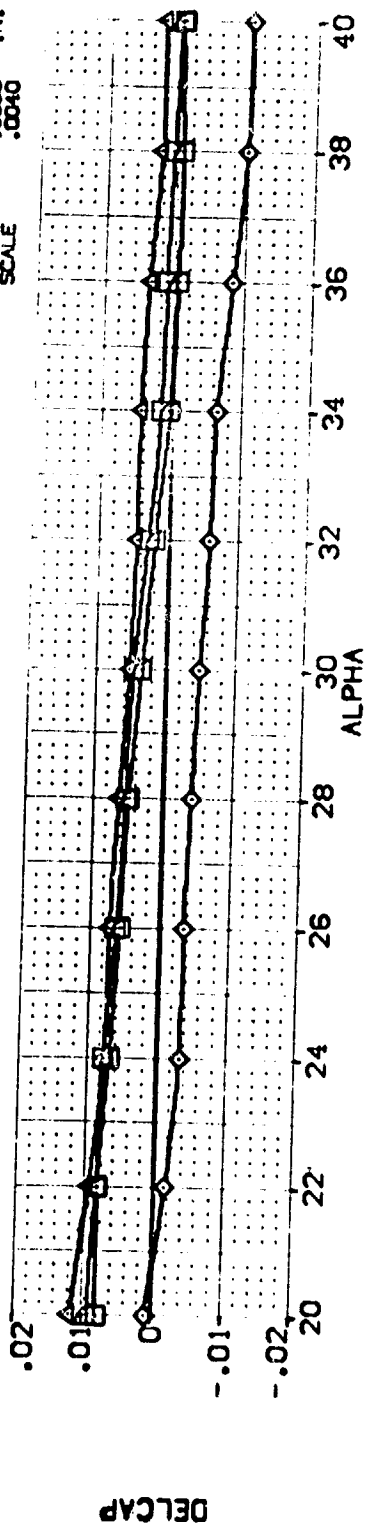


(B)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(P52143) DATA NOT AVAILABLE
 (P52120) P52C 581 (CA49) 083 34-0 (BDTH) (VE) (VR)
 (P52100) P52C 581 (CA49) 083 34-0 (BDTH) (VE) (VR)
 (P52080) P52C 581 (CA49) 083 34-0 (BDTH) (VE) (VR)
 (P52153) DATA NOT AVAILABLE
 (P52122) P52C 581 (CA49) 083 34-0 (BDTH) (VE) (VR)

DELEV: -19.710
 SREF: -37.810
 LREF: -19.710
 XREF: -37.810
 YREF: -19.710
 ZREF: -37.810
 BOFLAP: -11.700
 SPOBRK: 25.000
 ALLRON: -1.400
 SREF: 2741.8000
 LREF: 481.6480
 XREF: 936.7000
 YREF: 1081.3500
 ZREF: .0000
 SCALE: .0040



SPEED BRAKE - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

(M)MACH = 2.99

1921001
1921201
1920101
1920001
1921501
1921221

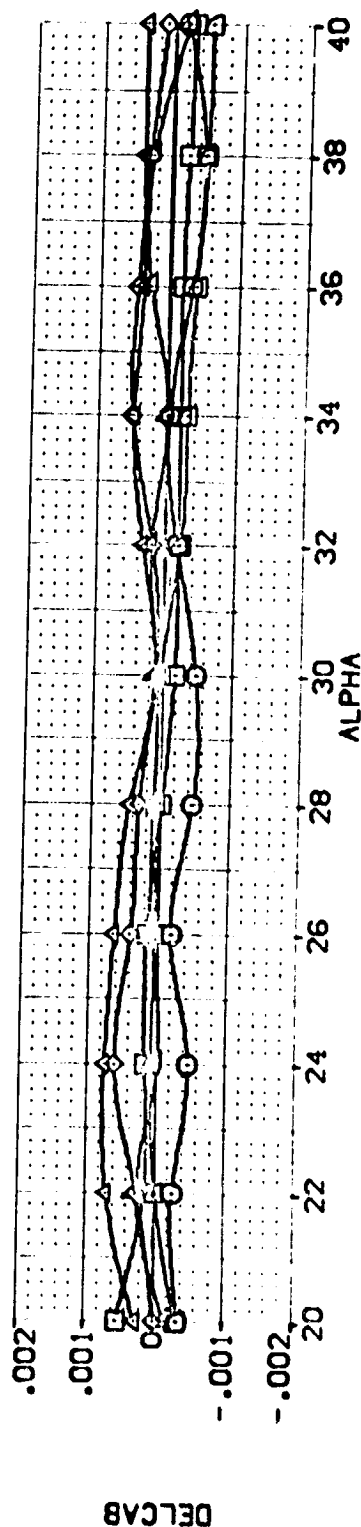
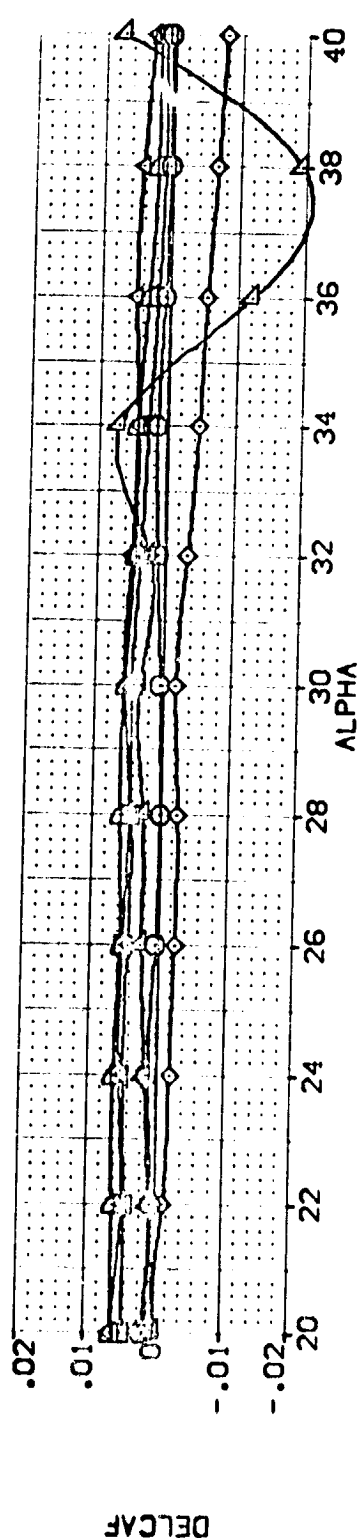
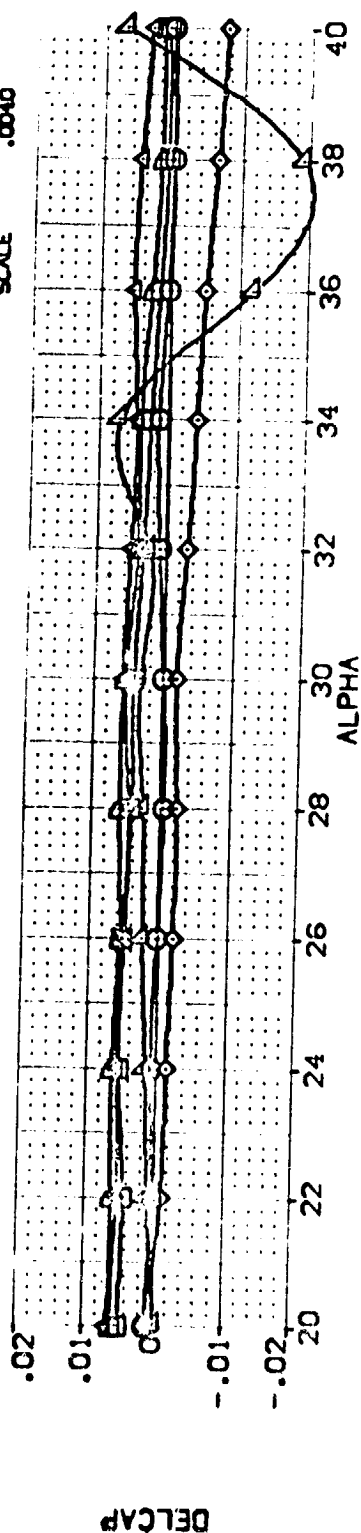
[illegible]

DELEVR	BDFAP
-19.710	-11.700
-37.810	-11.700
-19.710	-11.700
-37.810	-11.700
-19.710	-11.700
-37.810	-11.700

888.888.8888

[illegible]

REFERENCE INFORMATION		
	IN.	FT
BREF	2741.0000	
LREF	481.6480	
BREF	936.7000	
XTRP	1081.3500	
YTRP	0.0000	
ZTRP	0.0000	
SCALE	0.0040	



SPEED BRAKE - ELEVON INTERACTION (INC. FROM 4.16 DEGREE ELEVON)

[B]MACH = 4.96

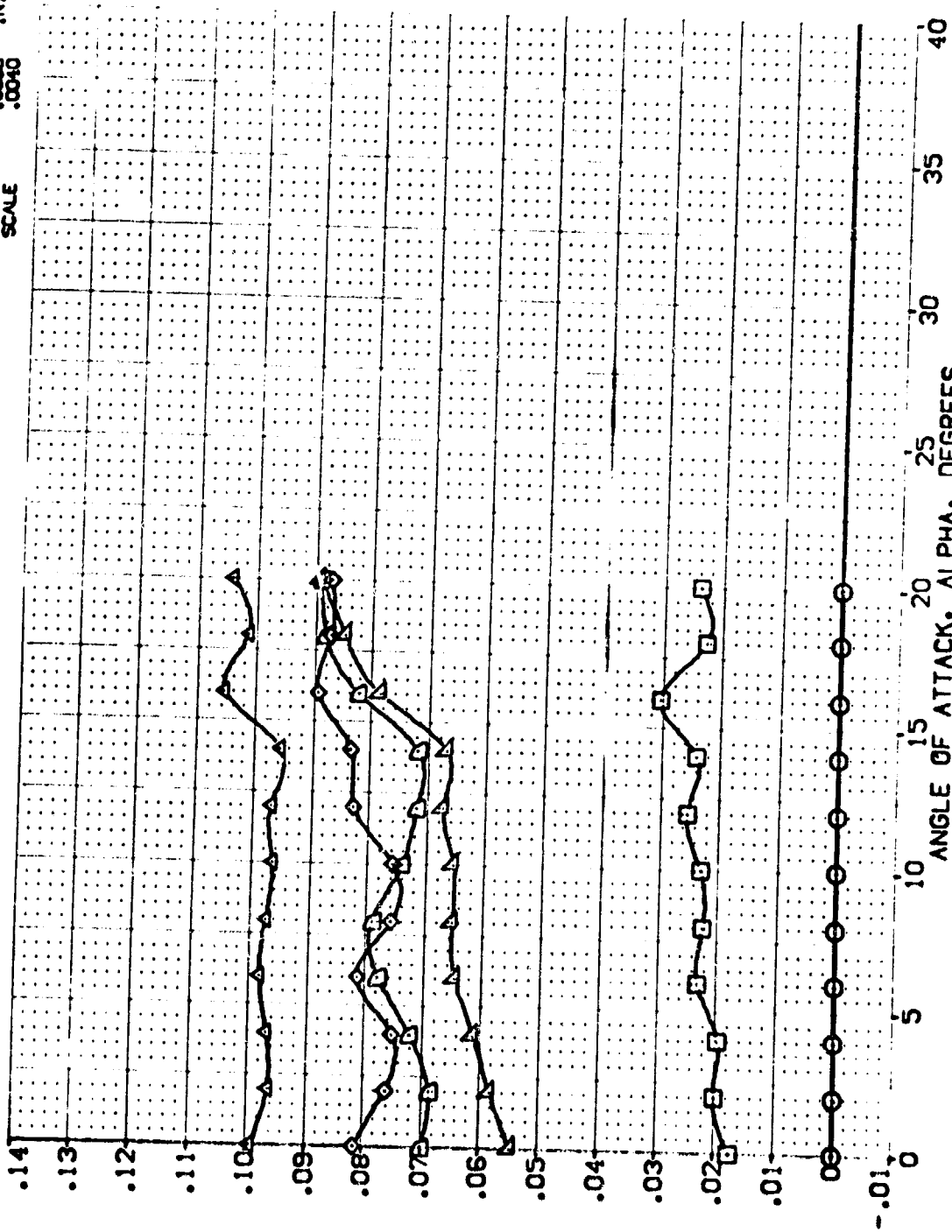
DATA SET SYMBOL CONFIGURATION DESCRIPTION

MSFC 581(0A49) CR8 3A-Q (BCFM) (VE)(VR)
 MSFC 581(0A49) CR8 3A-Q (BCFM) (VE)(VR)
 MSFC 581(0A49) CR8 3A-Q (BCFM) (VE)(VR)
 MSFC 581(0A49) CR8 3A-Q (BCFM) (VE)(VR)
 MSFC 581(0A49) CR8 3A-Q (BCFM) (VE)(VR)

ELEVTR 4.150 4.150 4.150 4.150 16.750 16.750
 BDFLAP -11.700 16.000 22.600 22.600 22.600 22.600
 SPDRBK 25.550 25.550 25.550 25.550 25.550 25.550

REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA

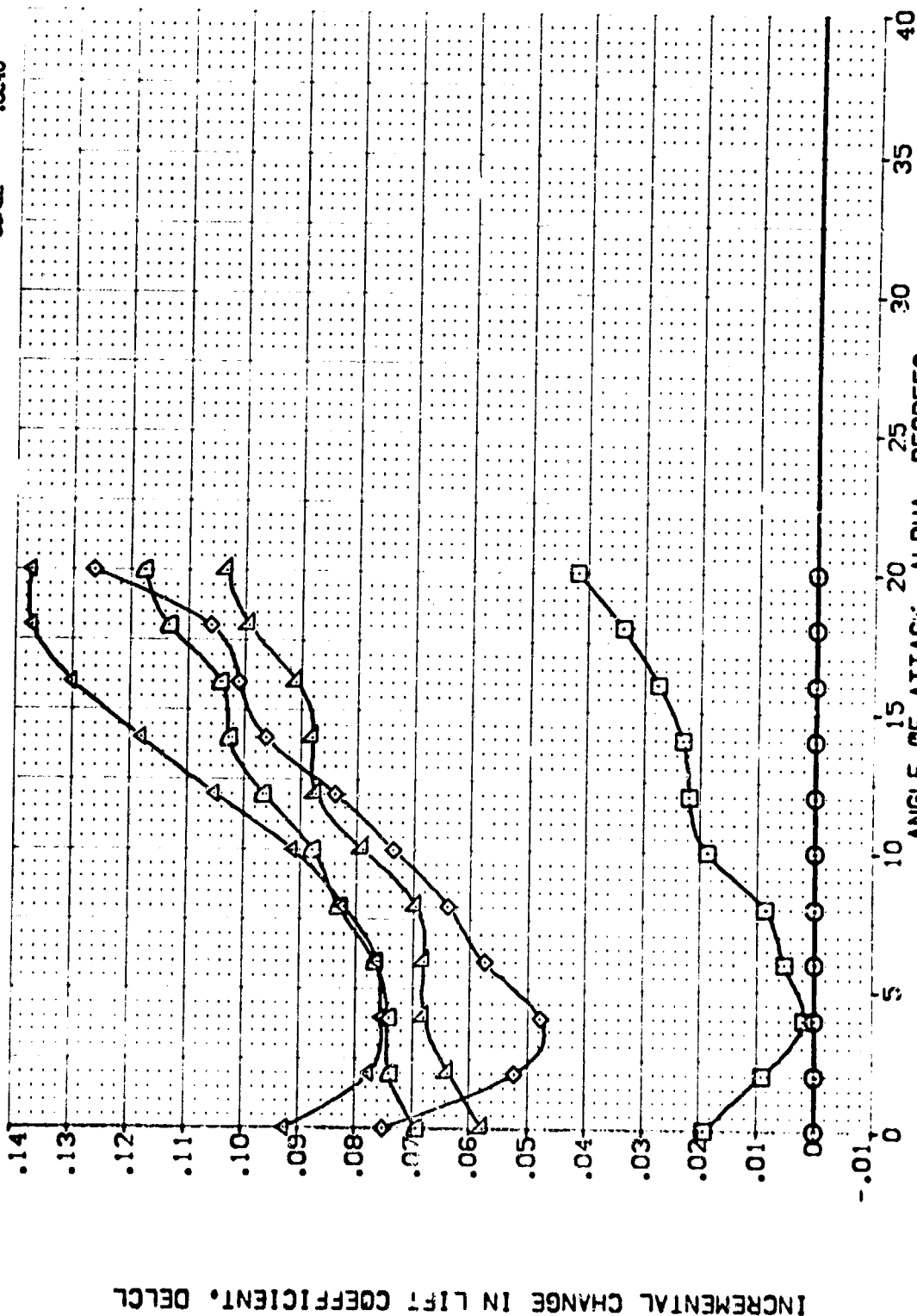


BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(A)MACH = .59

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPDRBK	REFERENCE INFORMATION
052004	MSFC 501(CA4S) DB 3A-Q (BDFH) (VE)(VR)	4.180	-11.700	25.550	2741.8000 50. FT
052005	MSFC 501(CA4S) DB 3A-Q (BDFH) (VE)(VR)	4.180	0.000	25.550	491.6480 IN.
052006	MSFC 501(CA4S) DB 3A-Q (BDFH) (VE)(VR)	4.180	16.300	25.550	935.7000 IN.
052007	MSFC 501(CA4S) DB 3A-Q (BDFH) (VE)(VR)	4.180	22.600	25.550	1081.3500 IN.
052008	MSFC 501(CA4S) DB 3A-Q (BDFH) (VE)(VR)	16.750	16.300	25.550	0.0000 IN.
05A116	MSFC 501(CA4S) DB 3A-Q (BDFH) (VE)(VR)	16.750	22.600	25.550	0.0040 SCALE



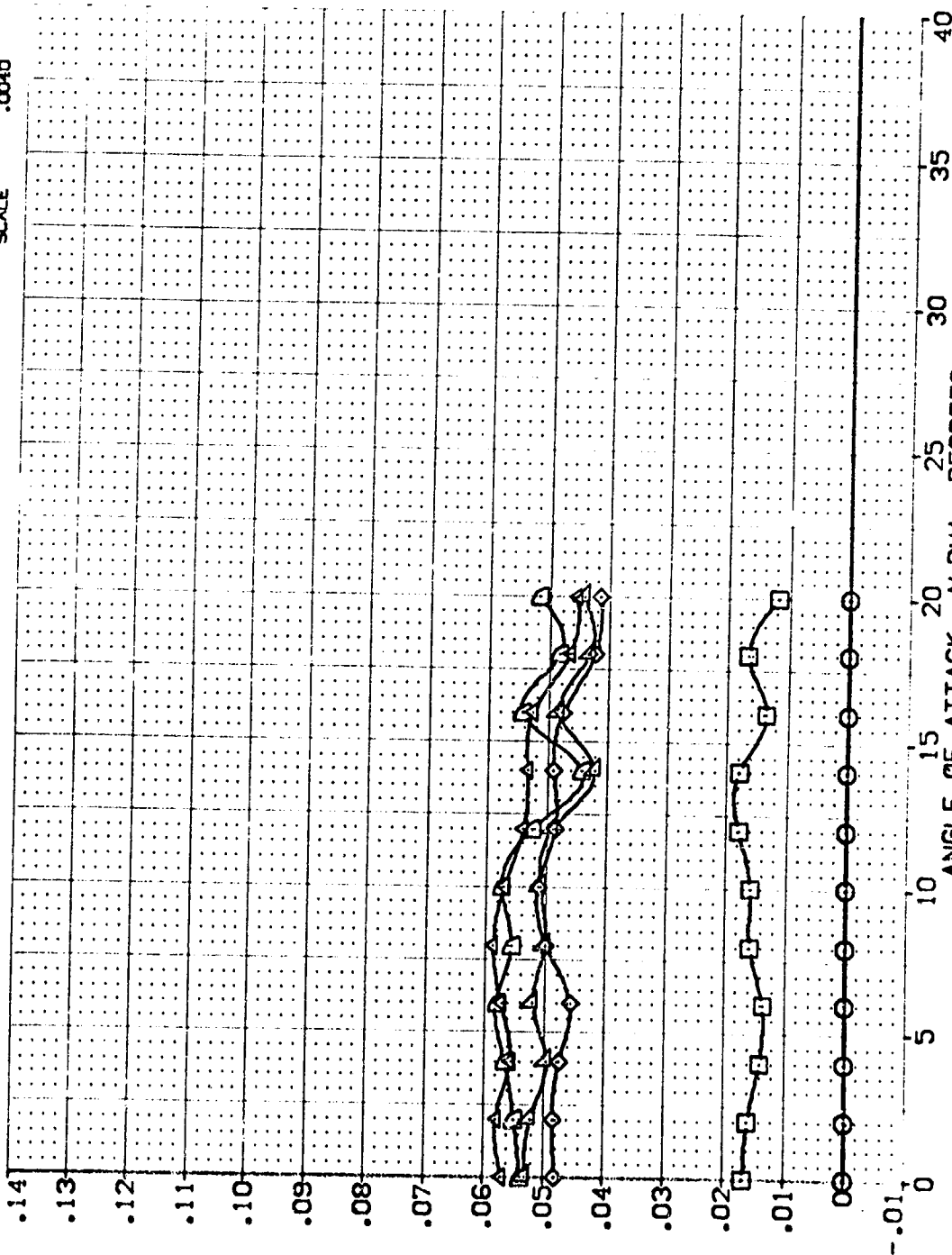
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(B)MACH = .90



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA CL

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDRBK	REFERENCE INFORMATION
[032004]	MSFC 581(0A49) DBB 34-0 (BOFM) (VE)(VR)	4.160	-11.700	25.550	SREF 2741.8000 SQ. FT
[032005]	MSFC 581(0A49) DBB 34-0 (BOFM) (VE)(VR)	4.160	-11.700	25.550	LREF 481.6480 IN.
[032006]	MSFC 581(0A49) DBB 34-0 (BOFM) (VE)(VR)	4.160	-11.700	25.550	BREF 936.7000 IN.
[032007]	MSFC 581(0A49) DBB 34-0 (BOFM) (VE)(VR)	4.160	-11.700	25.550	XMRP 1081.3500 IN.
[032008]	MSFC 581(0A49) DBB 34-0 (BOFM) (VE)(VR)	4.160	-11.700	25.550	YMRP .0000 IN.
[032009]	MSFC 581(0A49) DBB 34-0 (BOFM) (VE)(VR)	4.160	-11.700	25.550	ZMRP .0000 IN.
[032010]	MSFC 581(0A49) DBB 34-0 (BOFM) (VE)(VR)	4.160	-11.700	25.550	SCALE .0040



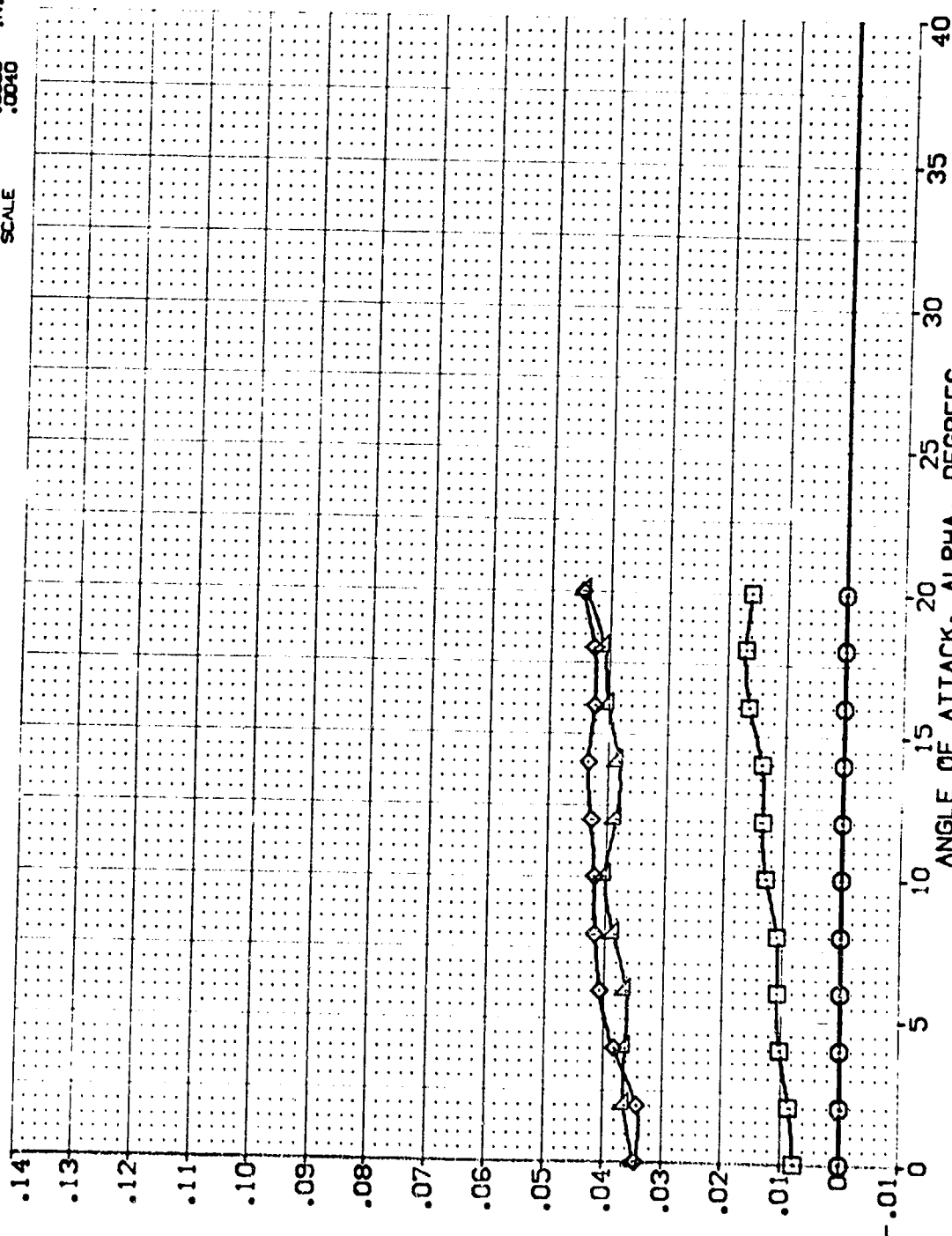
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(C)MACH = 1.19

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (052004) MSFC 501(0A49) 029 34-0 (BOFM) (VE)(VR)
 (052005) MSFC 501(0A49) 029 34-0 (BOFM) (VE)(VR)
 (052007) MSFC 501(0A49) 029 34-0 (BOFM) (VE)(VR)
 (052008) DATA NOT AVAILABLE
 (052009) MSFC 501(0A49) 029 34-0 (BOFM) (VE)(VR)
 (052010) DATA NOT AVAILABLE

ELEVTR BDFLAP SPDSBK
 4.160 -11.700 25.550
 4.160 16.300 25.550
 4.160 22.600 25.550
 16.750 16.300 25.550
 16.750 22.600 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.5480 IN.
 BREF 936.7000 IN.
 YMRP 1081.3500 IN.
 YMRP .0000 IN.
 YMRP .0000 IN.
 SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

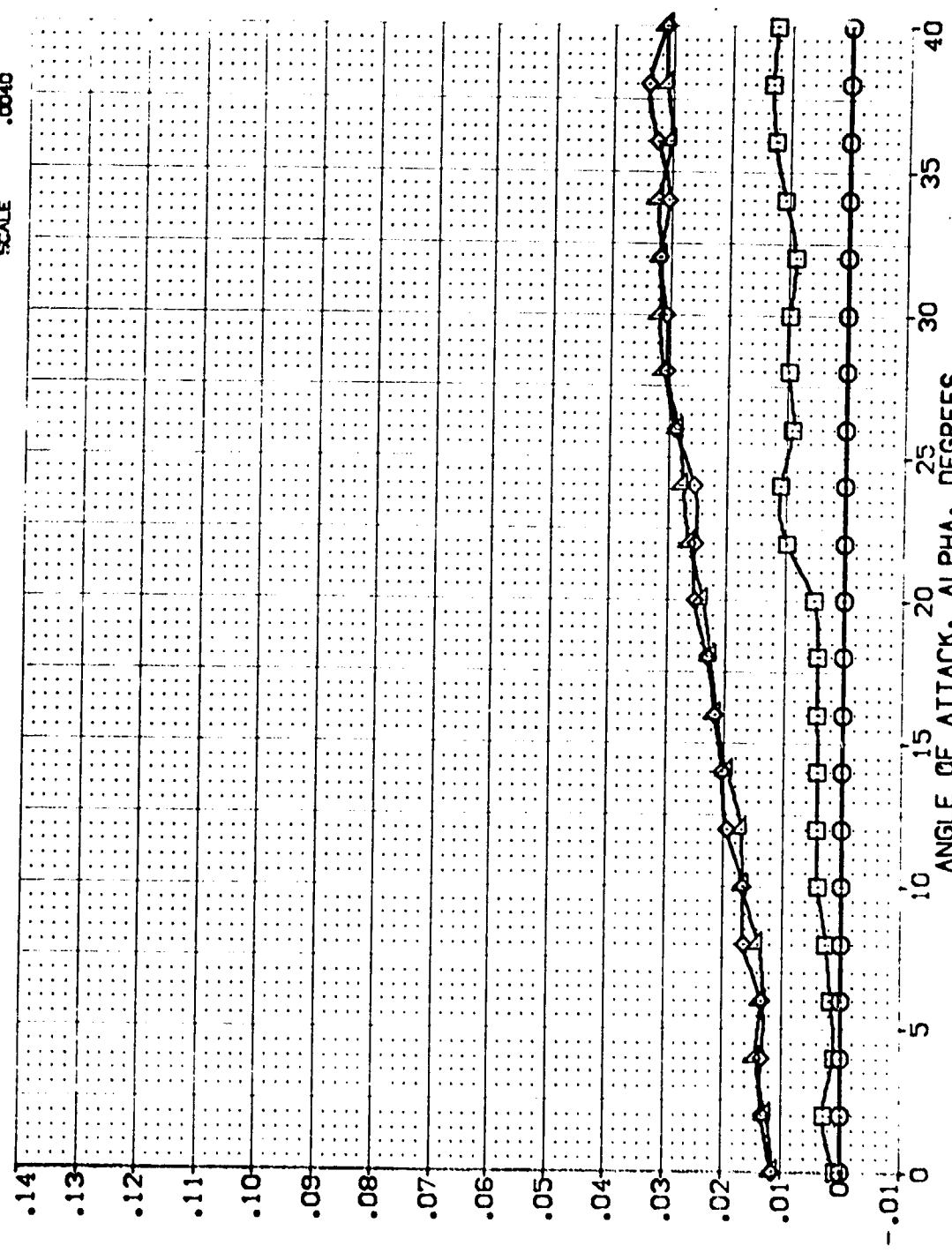
(CD)MACH = 1.46

DATA SET SYMBOL
 [CS2004]
 [CS2006]
 [CS2007]
 [CS2008]
 [CS2011]
 [CS2016]

CONFIGURATION DESCRIPTION
 MSC 581 (CA49) C78 34-0 (BDTH) (VE)(VR)
 MSC 581 (CA49) C78 34-0 (BDTH) (VE)(VR)
 MSC 581 (CA49) C78 34-0 (BDTH) (VE)(VR)
 DATA NOT AVAILABLE
 MSC 581 (CA49) C78 34-0 (BDTH) (VE)(VR)
 DATA NOT AVAILABLE

ELEVTR BDFLAP SPDRK
 4.160 -11.700 25.550
 4.160 16.300 25.550
 4.160 16.300 25.550
 16.750 22.500 25.550
 16.750 22.500 25.550

REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA CL

BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(F)MACH = 2.99

DATA SET SYMBOL CONFIGURATION DESCRIPTION

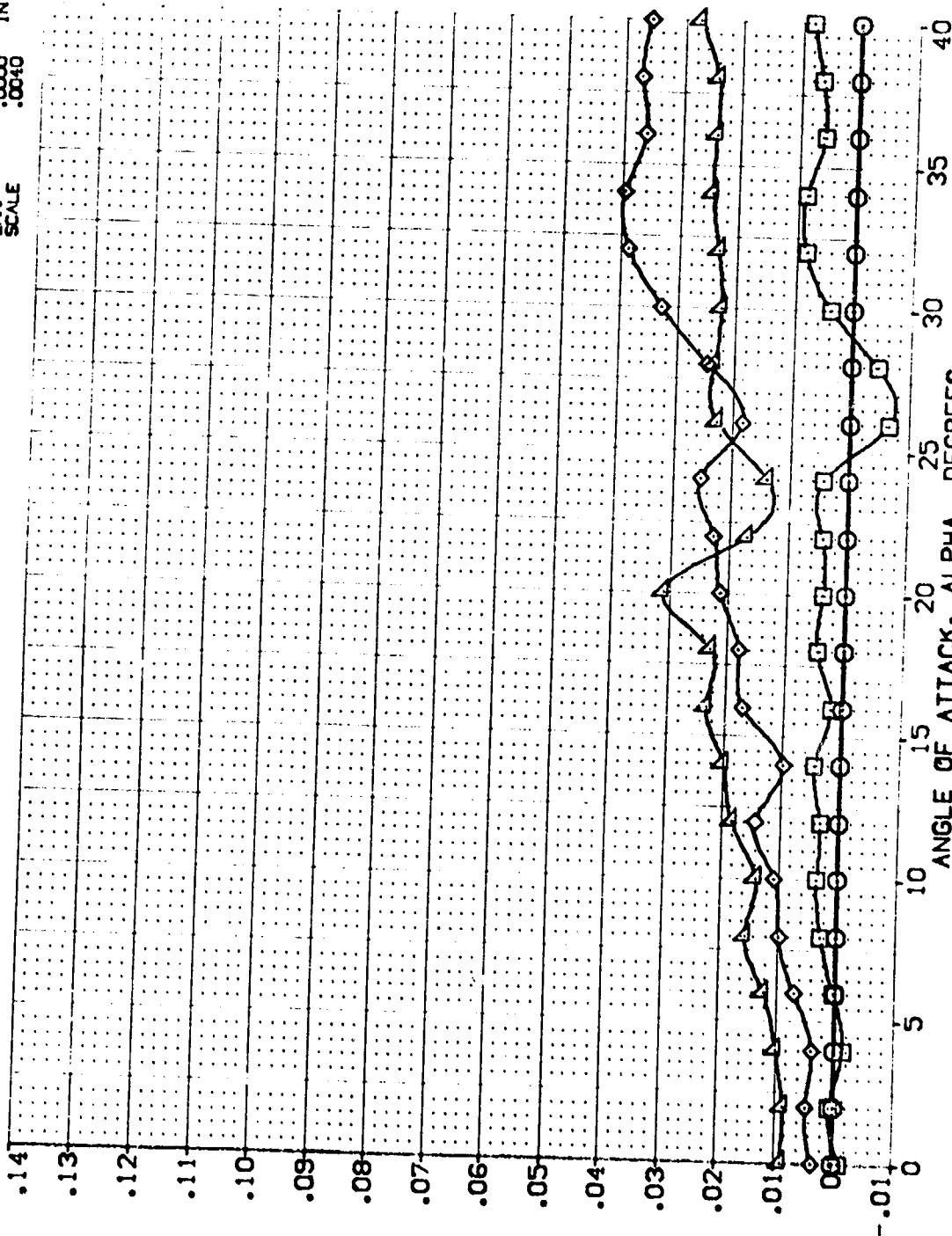
(092004)	MSFC 581(0A49) 078 3A-0 (BDFM) (VE)(VR)
(092005)	MSFC 581(0A49) 078 3A-0 (BDFM) (VE)(VR)
(092007)	MSFC 581(0A49) 078 3A-0 (BDFM) (VE)(VR)
(092008)	DATA NOT AVAILABLE
(092009)	MSFC 581(0A49) 078 3A-0 (BDFM) (VE)(VR)
(092010)	DATA NOT AVAILABLE

ELEVTR BDFLAP SPOBRK

4.160	-11.700	25.550
4.160	16.300	25.550
4.160	16.300	25.550
4.160	22.500	25.550
16.790	22.500	25.550

REFERENCE INFORMATION

SREF	2741.6000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XPRP	1081.3500	IN.
YPRP	.0000	IN.
ZPRP	.0000	IN.
SCALE	.0010	



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(G)MACH = 4.96

DATA SET SYMBOL

(092004)
(092006)
(092007)
(092011)
(092012)
(092016)

CONFIGURATION DESCRIPTION

MSFC S31(DA49) CR3 34-0 (BCFH) (VE)(VR)
MSFC S31(DA49) CR3 34-0 (BCFH) (VE)(VR)
MSFC S31(DA49) CR3 34-0 (BCFH) (VE)(VR)
MSFC S31(DA49) CR3 34-0 (BCFH) (VE)(VR)
MSFC S31(DA49) CR3 34-0 (BCFH) (VE)(VR)

ELEVTR

4.160
4.160
4.160
16.790
16.790

BOFLAP

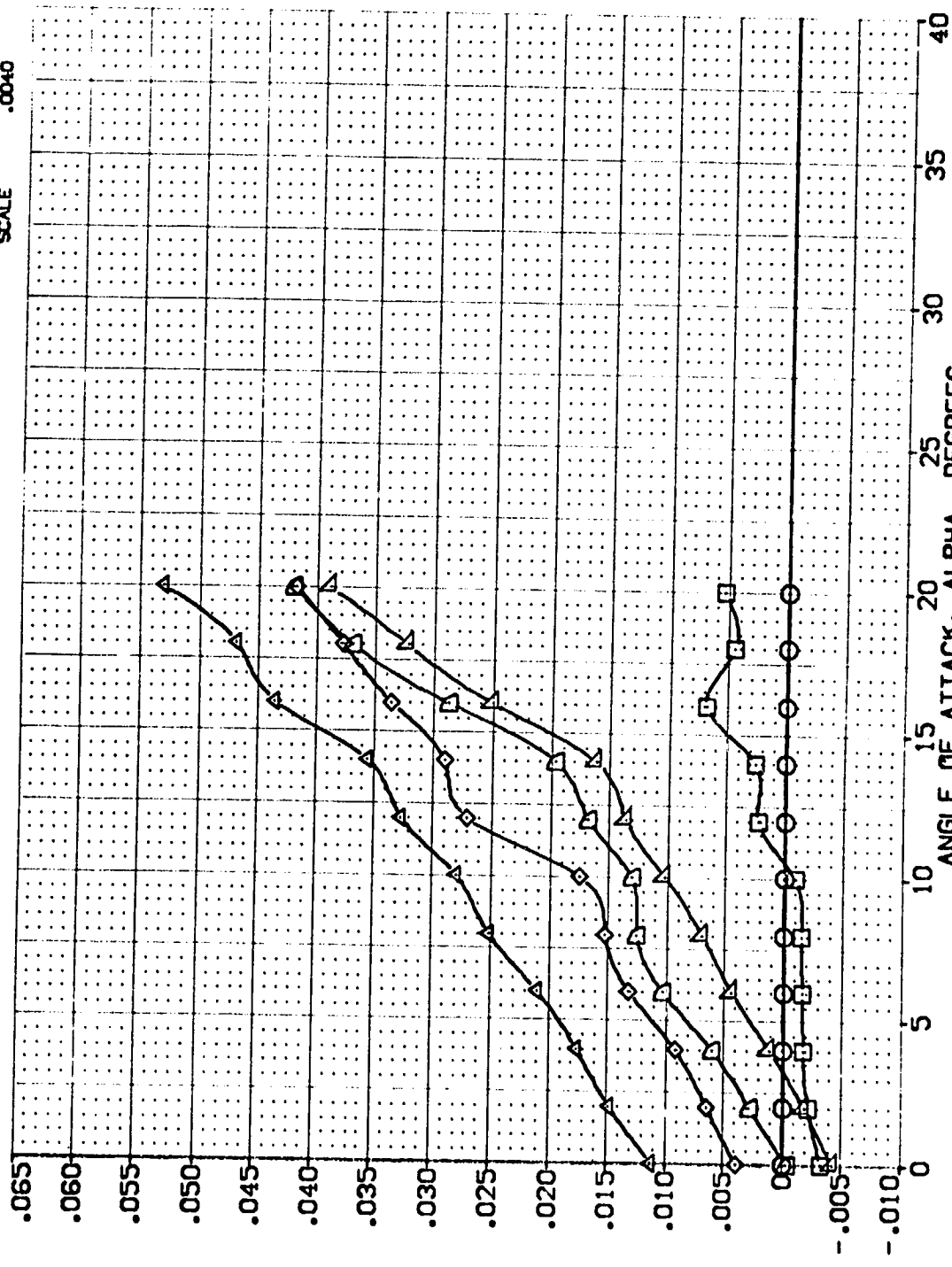
-11.700
-11.700
16.300
22.600
22.600

SPOBRK

23.550
23.550
23.550
23.550
23.550

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XMRP 1081.3900 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ANGLE OF ATTACK, ALPHA, DEGREES
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(A)MACH = .59

DATA SET SYMBOL CONFIGURATION DESCRIPTION

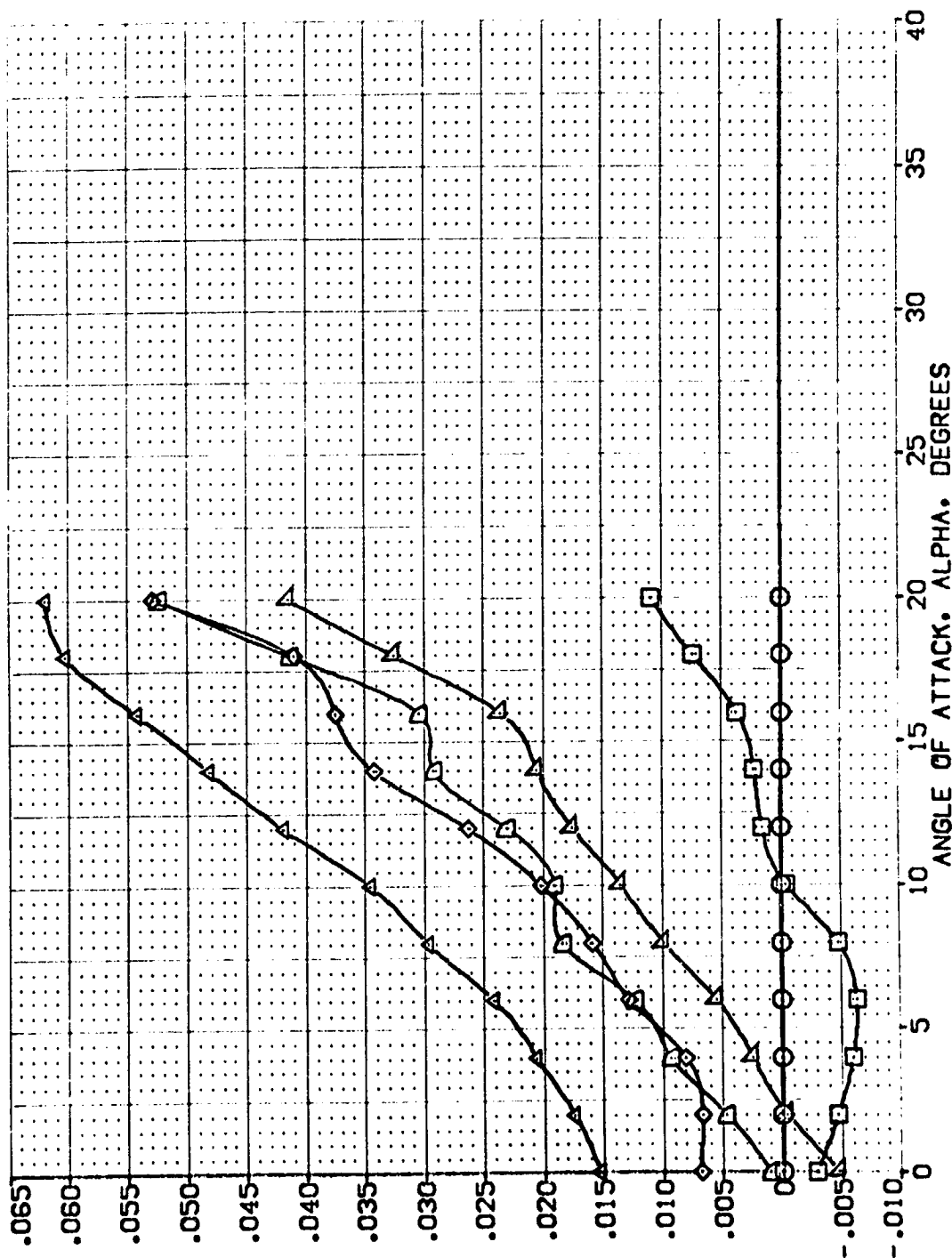
(092004)	MSFC	581(0A49)	DBB	34-0	(BCFM)	(VEI)(VR)
(092005)	MSFC	581(0A49)	DBB	34-0	(BCFM)	(VEI)(VR)
(092007)	MSFC	581(0A49)	DBB	34-0	(BCFM)	(VEI)(VR)
(09A115)	MSFC	581(0A49)	DBB	34-0	(BCFM)	(VEI)(VR)
(092008)	MSFC	581(0A49)	DBB	34-0	(BCFM)	(VEI)(VR)
(09A116)	MSFC	581(0A49)	DBB	34-0	(BCFM)	(VEI)(VR)

ELEVTR BDFLAP SP08BK

4.160	-11.700	25.550
4.160	16.300	25.550
4.160	16.300	25.550
16.790	22.600	25.550
16.790	22.600	25.550

REFERENCE INFORMATION

SPREF	2741.8000	90. FT
LRREF	481.6480	IN.
BRREF	936.7000	IN.
YMRP	1081.3900	IN.
ZMRP	.0000	IN.
SCALE	.0040	

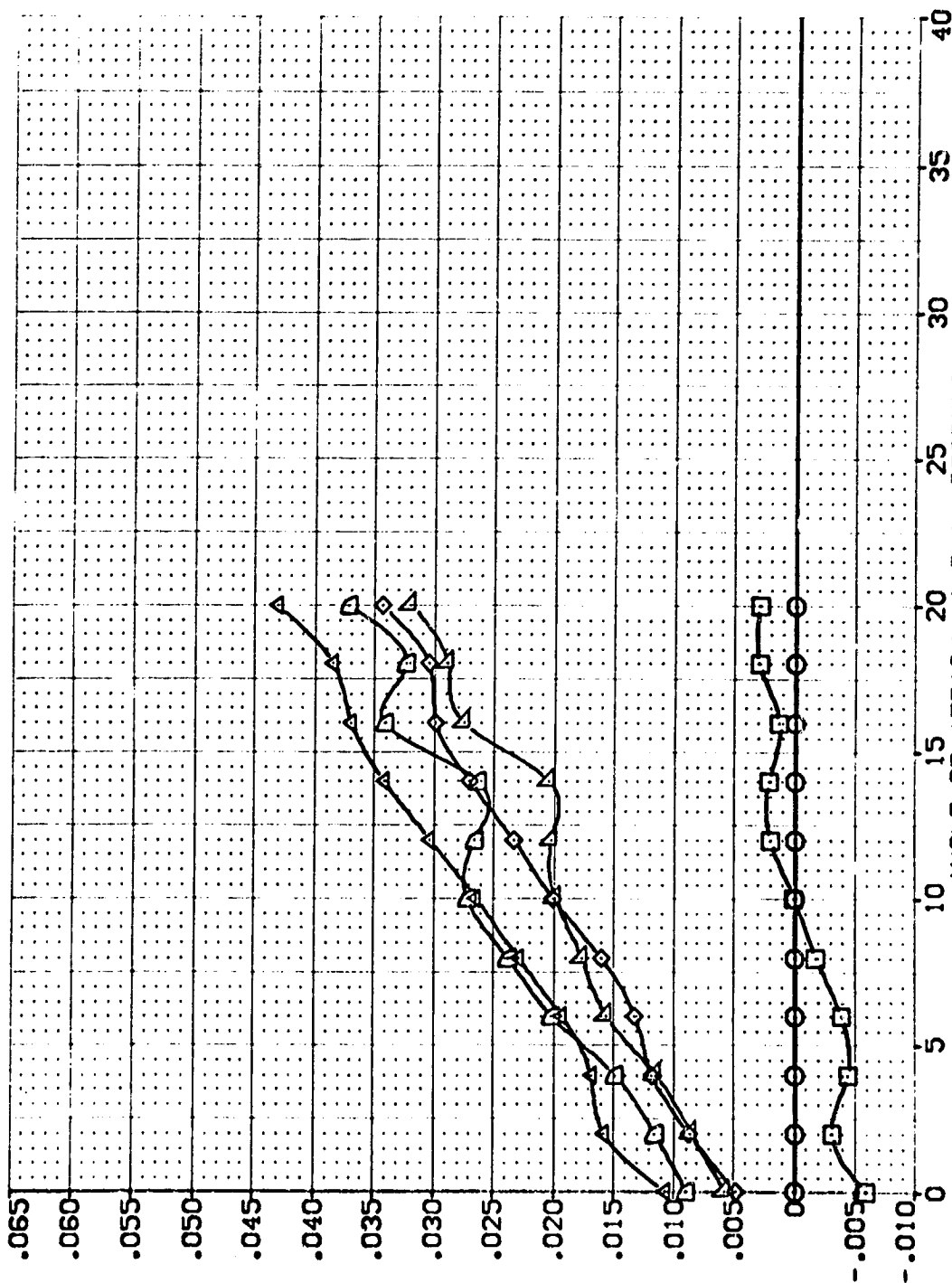


INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(B)MACH = .90

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPOBRK	REFERENCE INFORMATION
(092004)	MSTC S81(OA19) 073 34-0 (BDTH) (VE)(VR)	4.160	-11.700	25.550	SREF 2741.8000 SQ. FT
(092006)	MSTC S81(OA19) 073 34-0 (BDTH) (VE)(VR)	4.160	-11.700	25.550	LREF 481.6480 IN.
(092007)	MSTC S81(OA19) 073 34-0 (BDTH) (VE)(VR)	4.160	-11.700	25.550	BREF 536.7000 IN.
(092008)	MSTC S81(OA19) 073 34-0 (BDTH) (VE)(VR)	4.160	-11.700	25.550	XPRP 1081.3900 IN.
(092009)	MSTC S81(OA19) 073 34-0 (BDTH) (VE)(VR)	16.750	22.600	25.550	YPRP .0000 IN.
(092010)	MSTC S81(OA19) 073 34-0 (BDTH) (VE)(VR)	16.750	22.600	25.550	ZPRP .0040 IN.
(092011)	MSTC S81(OA19) 073 34-0 (BDTH) (VE)(VR)	16.750	22.600	25.550	SCALE



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(CJ)MACH = 1.19

DATA SET SYMBOL CONFIGURATION DESCRIPTION

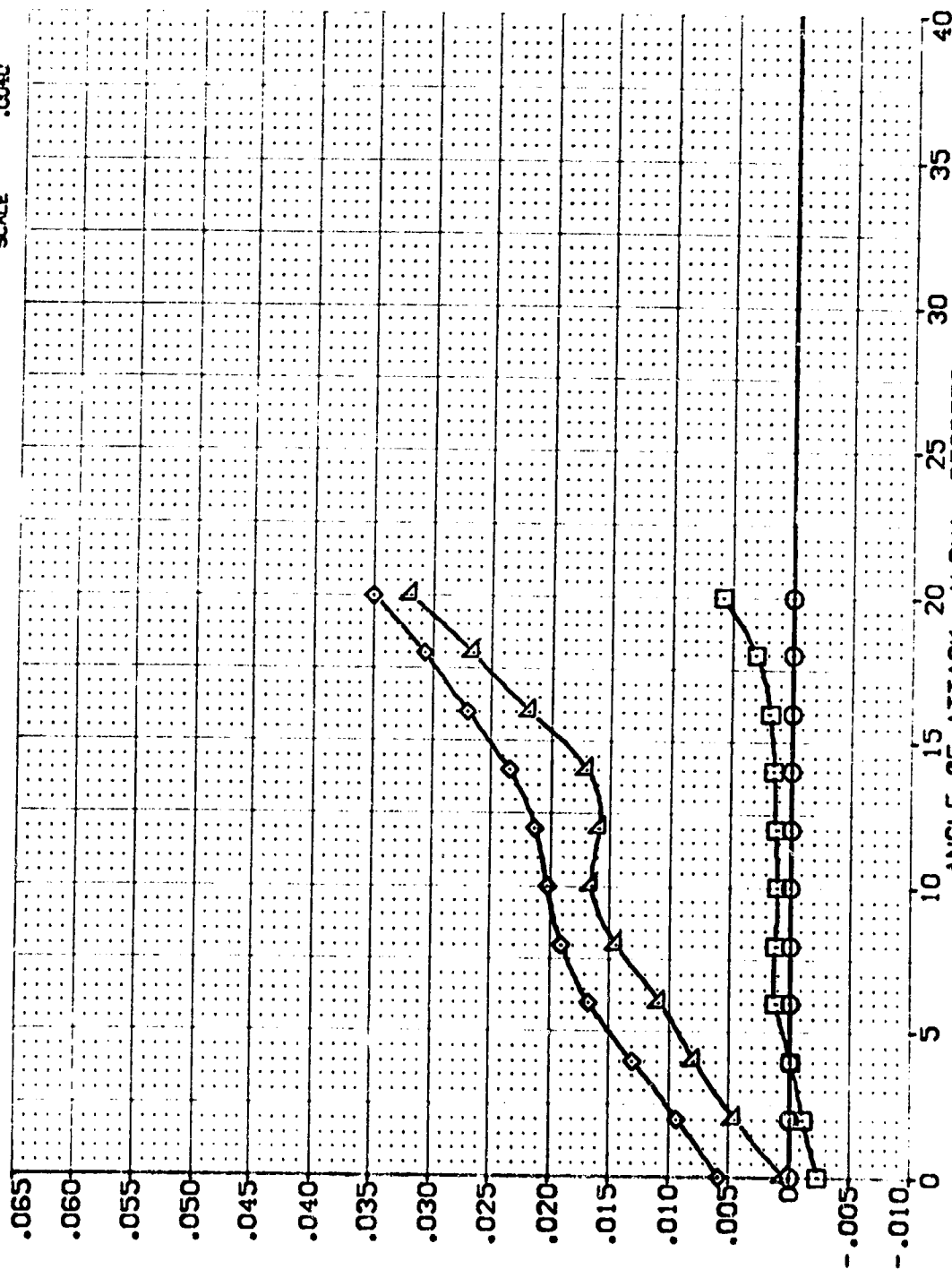
(C22004)	MSFC S31(OA49) G33 34-0 (BDPH)	(VE)(VR)
(C22005)	MSFC S31(OA49) G33 34-0 (BDPH)	(VE)(VR)
(C22007)	MSFC S31(OA49) G33 34-0 (BDPH)	(VE)(VR)
(C22015)	DATA NOT AVAILABLE	
(C22003)	MSFC S31(OA49) G33 34-0 (BDPH)	(VE)(VR)
(C22016)	DATA NOT AVAILABLE	

ELEVTR BDFLAP SPDRBK

4.160	-11.700	25.550
4.160	0.000	25.550
4.160	16.600	25.550
16.750	16.600	25.550
16.750	22.600	25.550

REFERENCE INFORMATION

SRF	2741.8000	50. FT
LRP	481.6480	IN.
SRF	936.7000	IN.
LRP	1081.3500	IN.
SRF	0.0000	IN.
LRP	0.0000	IN.
SCALE	.0040	



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

ANGLE OF ATTACK, ALPHA, DEGREES

BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(C)MACH = 1.46

DATA SET SYMBOL

(092004)
(092006)
(092007)
(092008)
(092009)
(092010)

CONFIGURATION DESCRIPTION

MSFC 581(0A49) DB 34-0 (BDFN) (VE)(VR)
MSFC 581(0A49) DB 34-0 (BDFN) (VE)(VR)
MSFC 581(0A49) DB 34-0 (BDFN) (VE)(VR)
MSFC 581(0A49) DB 34-0 (BDFN) (VE)(VR)
MSFC 581(0A49) DB 34-0 (BDFN) (VE)(VR)
MSFC 581(0A49) DB 34-0 (BDFN) (VE)(VR)

ELEVTR

4.160
4.160
4.160
4.160
16.750
16.750

BOFLAP

-11.700
-11.700
-11.700
-11.700
-11.700
-11.700

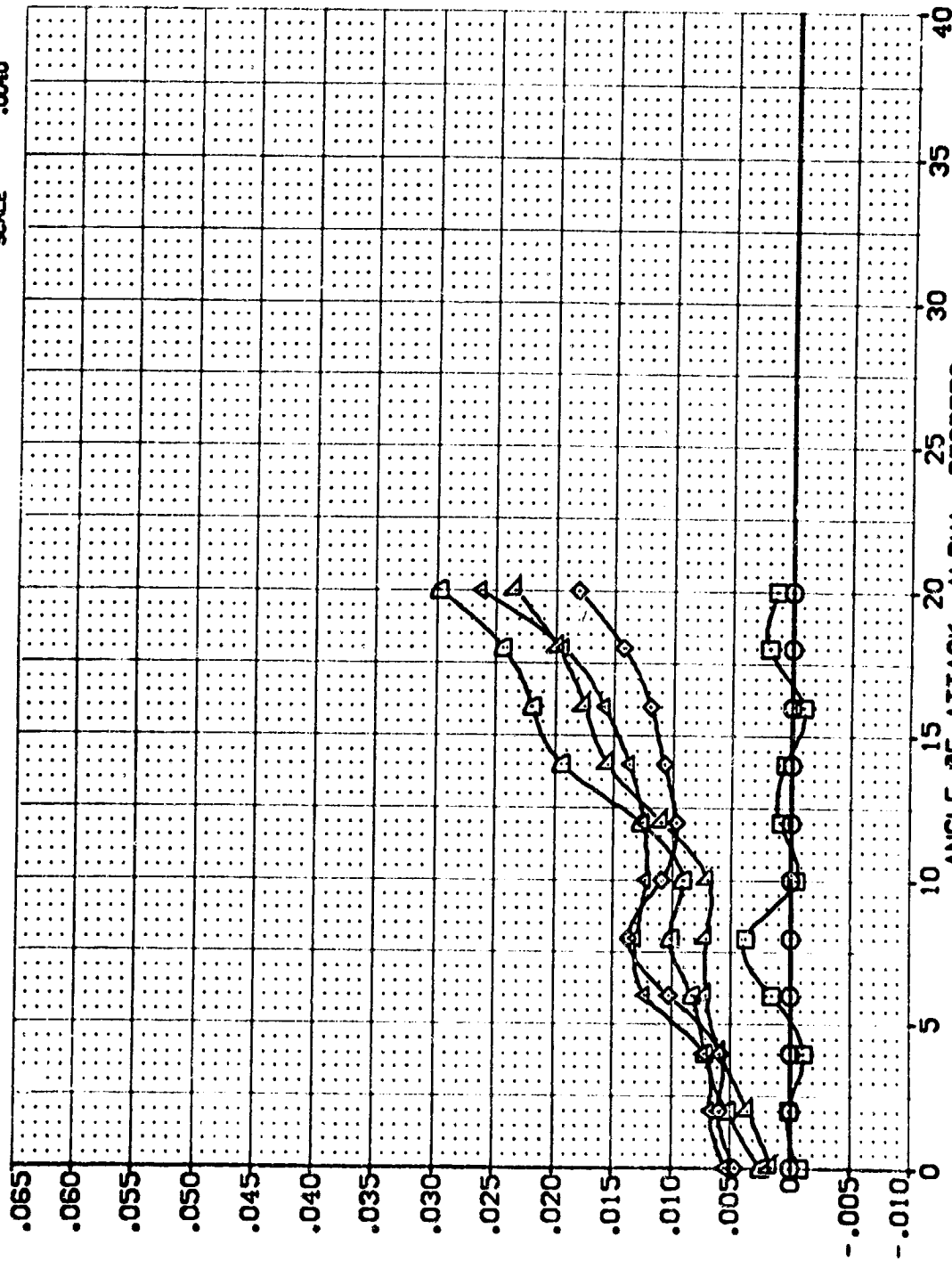
SPDRK

25.500
25.500
25.500
25.500
25.500
25.500

REFERENCE INFORMATION

QREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 538.7000 IN.
XREF 1081.2500 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



ANGLE OF ATTACK, ALPHA, DEGREES
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(C)MACH = 1.95

DATA SET SYMBOL CONFIGURATION DESCRIPTION

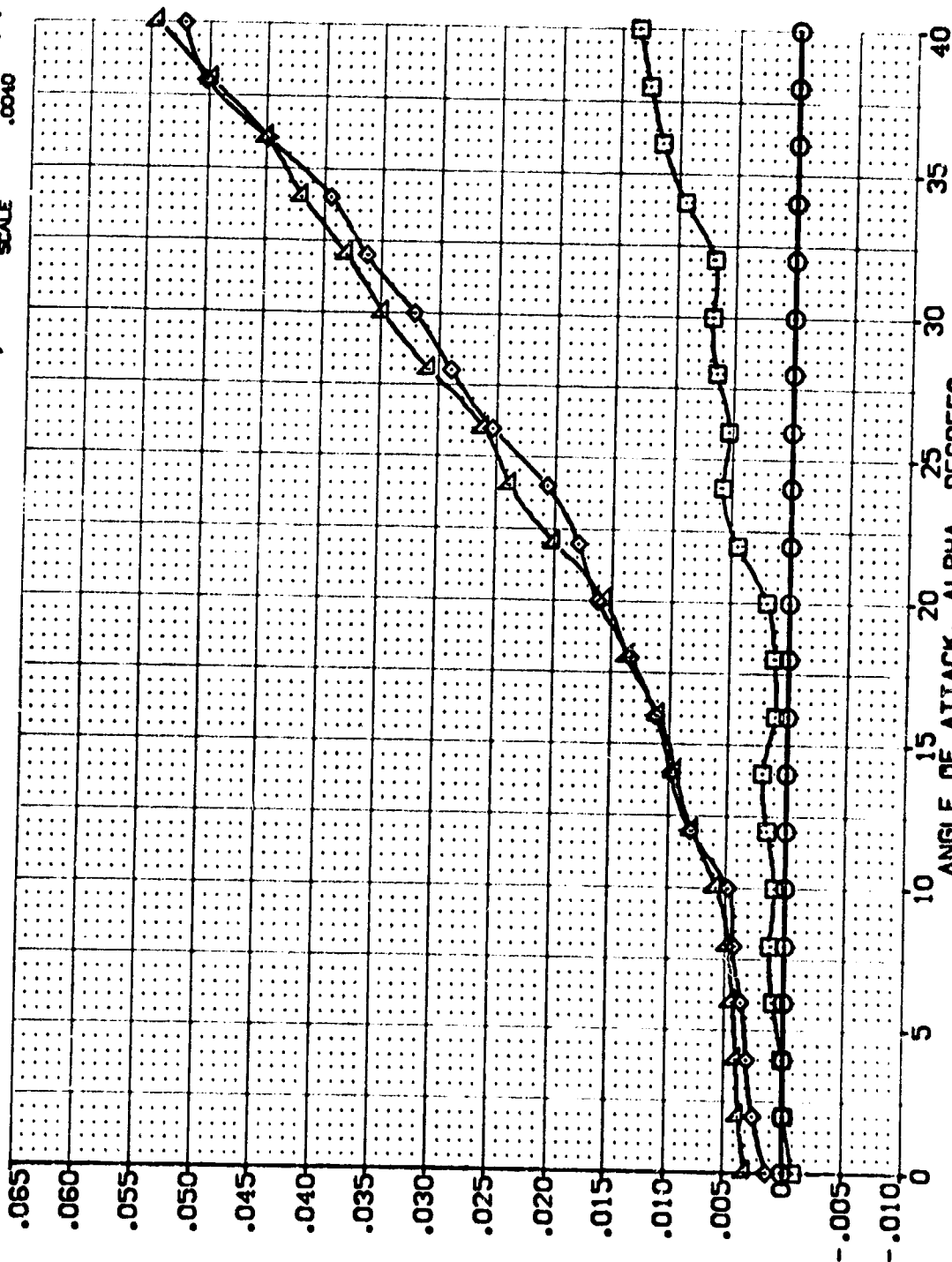
[082004]	HSFC	S81(0A49)	078	34-0	(BOTH)	(VE)(VR)
[082006]	HSFC	S81(0A49)	078	34-0	(BOTH)	(VE)(VR)
[082007]	HSFC	S81(0A49)	078	34-0	(BOTH)	(VE)(VR)
[082008]	DATA	NOT AVAILABLE				
[082009]	HSFC	S81(0A49)	078	34-0	(BOTH)	(VE)(VR)
[082010]	DATA	NOT AVAILABLE				

ELEVTR BOFLAP SPDRK

4.160	-11.700	23.500
4.160	16.300	23.500
4.160	16.300	23.500
4.160	16.300	23.500
16.790	22.600	23.500

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	528.7000	IN.
XPRP	1081.3500	IN.
YPRP	.0000	IN.
ZPRP	.0000	IN.
SCALE	.0040	



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELTA CD

ANGLE OF ATTACK, ALPHA, DEGREES

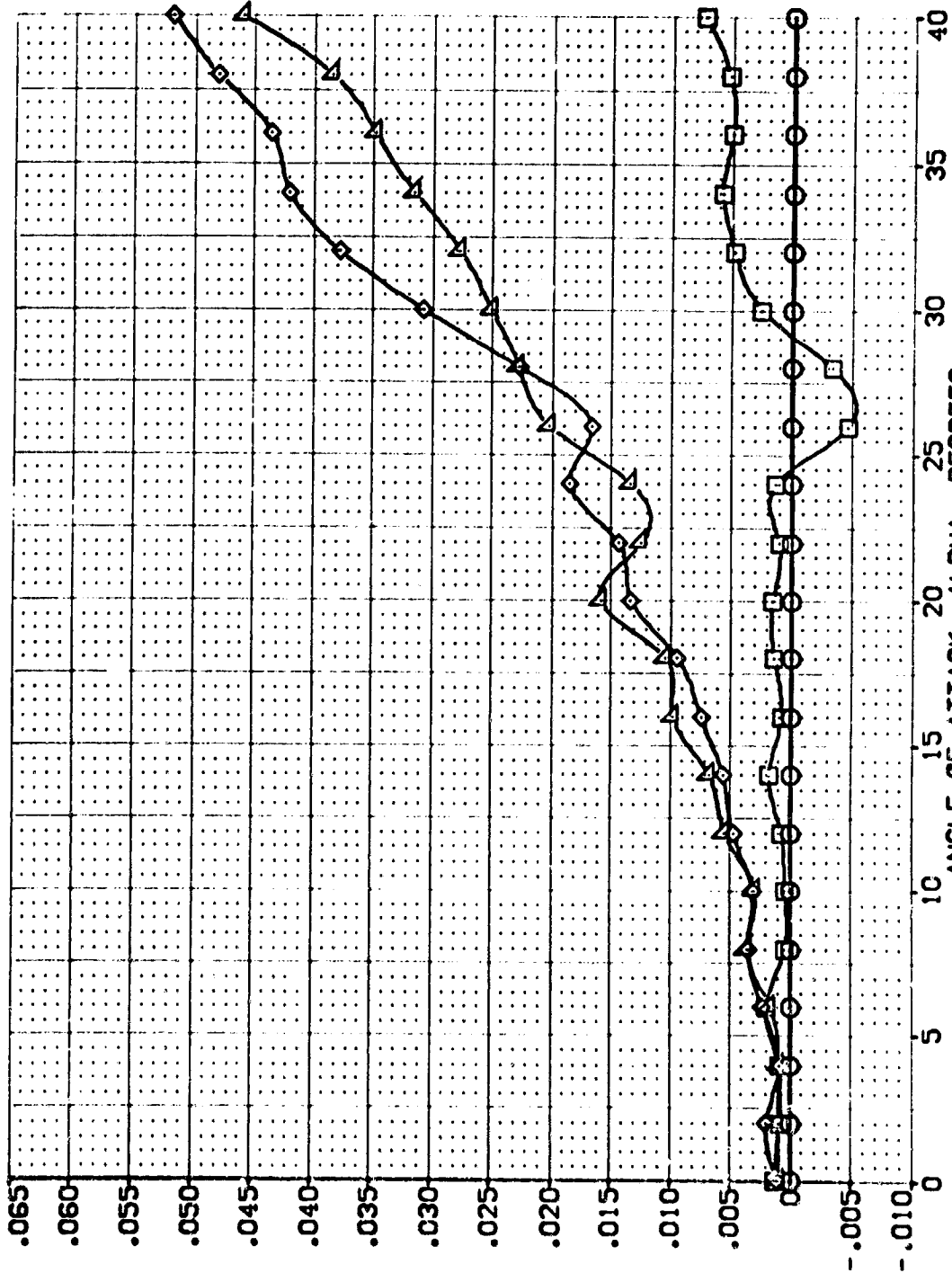
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(F)MACH = 2.99



DATA SET SYMBOL CONFIGURATION DESCRIPTION ELEVTR BODYFLAP SPEEDK REFERENCE INFORMATION

(082004)	HSFC 581 (0419) ORB 34-0 (BODY)	4.160	-11.700	25.550	REF 2741.8000 IN.
(082005)	HSFC 581 (0419) ORB 34-0 (BODY)	4.160	-11.700	25.550	LREF 481.6480 IN.
(082007)	HSFC 581 (0419) ORB 34-0 (BODY)	4.160	-11.700	25.550	PRF 536.7000 IN.
(082008)	DATA NOT AVAILABLE	4.160	-11.700	25.550	YPRP 1081.3000 IN.
(082009)	HSFC 581 (0419) ORB 34-0 (BODY)	16.750	-11.700	25.550	ZPRP .0000 IN.
(082010)	DATA NOT AVAILABLE	16.750	-11.700	25.550	SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

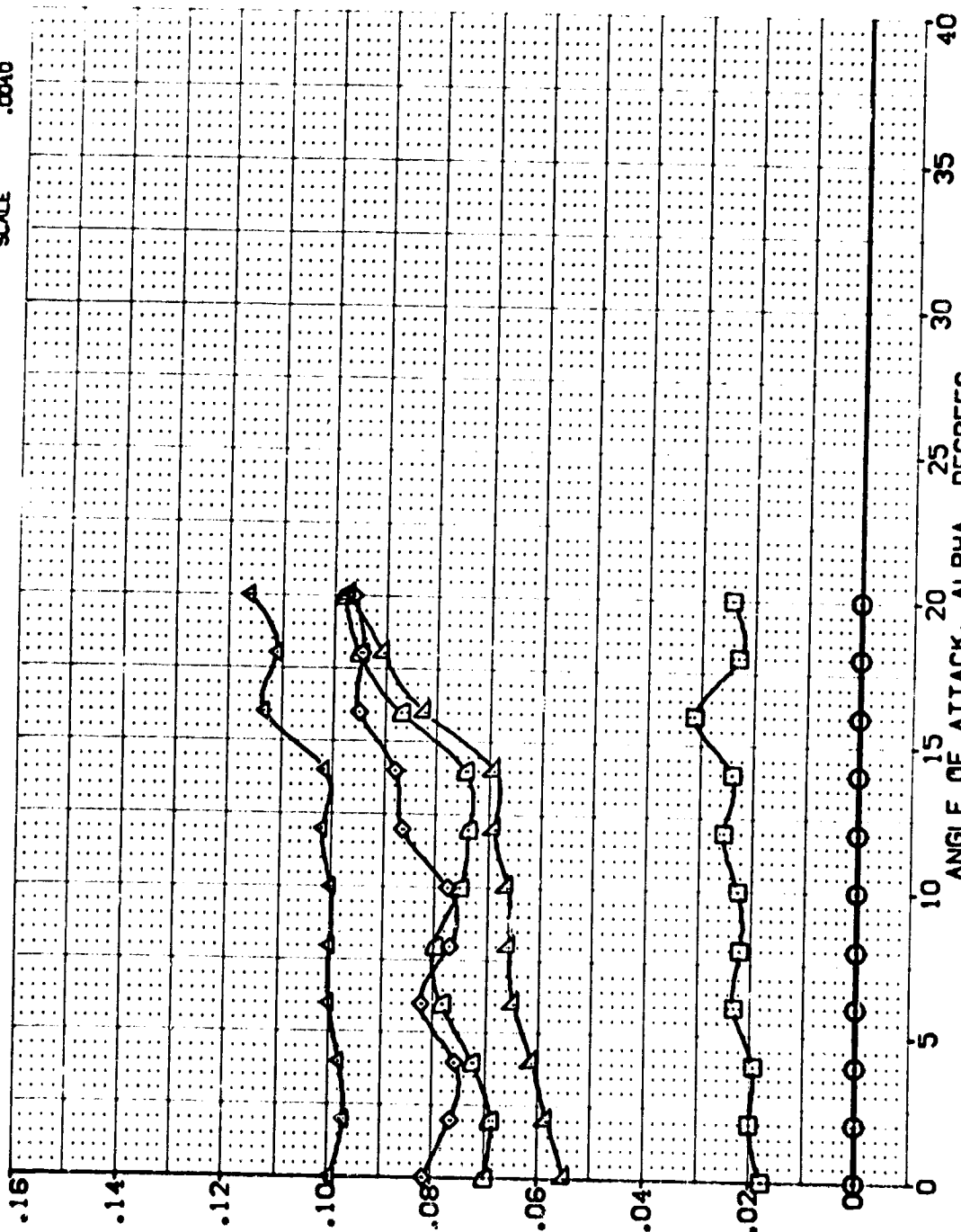
(G)MACH = 4.96

```
DATA SET
(092004)
(092006)
(092007)
(09A115)
(092008)
(09A116)
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NO.	DESCRIPTION	NO.	DATE	AMOUNT
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2	1000	1000	1000	1000
3	1000	1000	1000	1000
4	1000	1000	1000	1000
5	1000	1000	1000	1000
6	1000	1000	1000	1000
7	1000	1000	1000	1000
8	1000	1000	1000	1000
9	1000	1000	1000	1000
10	1000	1000	1000	1000
11	1000	1000	1000	1000
12	1000	1000	1000	1000
13	1000	1000	1000	1000
14	1000	1000	1000	1000
15	1000	1000	1000	1000
16	1000	1000	1000	1000
17	1000	1000	1000	1000
18	1000	1000	1000	1000
19	1000	1000	1000	1000
20	1000	1000	1000	1000
21	1000	1000	1000	1000
22	1000	1000	1000	1000
23	1000	1000	1000	1000
24	1000	1000	1000	1000
25	1000	1000	1000	1000
26	1000	1000	1000	1000
27	1000	1000	1000	1000
28	1000	1000	1000	1000
29	1000	1000	1000	1000
30	1000	1000	1000	1000
31	1000	1000	1000	1000
32	1000	1000	1000	1000
33	1000	1000	1000	1000
34	1000	1000	1000	1000
35	1000	1000	1000	1000
36	1000	1000	1000	1000
37	1000	1000	1000	1000
38	1000	1000	1000	1000
39	1000	1000	1000	1000
40	1000	1000	1000	1000
41	1000	1000	1000	1000
42	1000	1000	1000	1000
43	1000	1000	1000	1000
44	1000	1000	1000	1000
45	1000	1000	1000	1000
46	1000	1000	1000	1000
47	1000	1000	1000	1000
48	1000	1000	1000	1000
49	1000	1000	1000	1000
50	1000	1000	1000	1000
51	1000	1000	1000	1000
52	1000	1000	1000	1000
53	1000	1000	1000	1000
54	1000	1000	1000	1000
55	1000	1000	1000	1000
56	1000	1000	1000	1000
57	1000	1000	1000	1000
58	1000	1000	1000	1000
59	1000	1000	1000	1000
60	1000	1000	1000	1000
61	1000	1000	1000	1000
62	1000	1000	1000	1000
63	1000	1000	1000	1000
64	1000	1000	1000	1000
65	1000	1000	1000	1000
66	1000	1000	1000	1000
67	1000	1000	1000	1000
68	1000	1000	1000	1000
69	1000	1000	1000	1000
70	1000	1000	1000	1000
71	1000	1000	1000	1000
72	1000	1000	1000	1000
73	1000	1000	1000	1000
74	1000	1000		

ELEVTR	BOFLAP	SPDRBK
4.180	-11.700	22.550
4.180	0.000	22.550
4.180	16.300	22.550
4.180	22.600	22.550
16.790	16.300	22.550
16.790	22.600	22.550

REFERENCE INFORMATION		
	SO.	FT
SREF	2741.8000	IN.
LREF	481.6480	IN.
BREF	936.7300	IN.
XPRP	1081.3900	IN.
YPRP	0.0000	IN.
ZPRP	0.0000	IN.
SCALE	0.0010	



ANGLE OF ATTACK, ALPHA, DEGREES

DATA SET SYMBOL

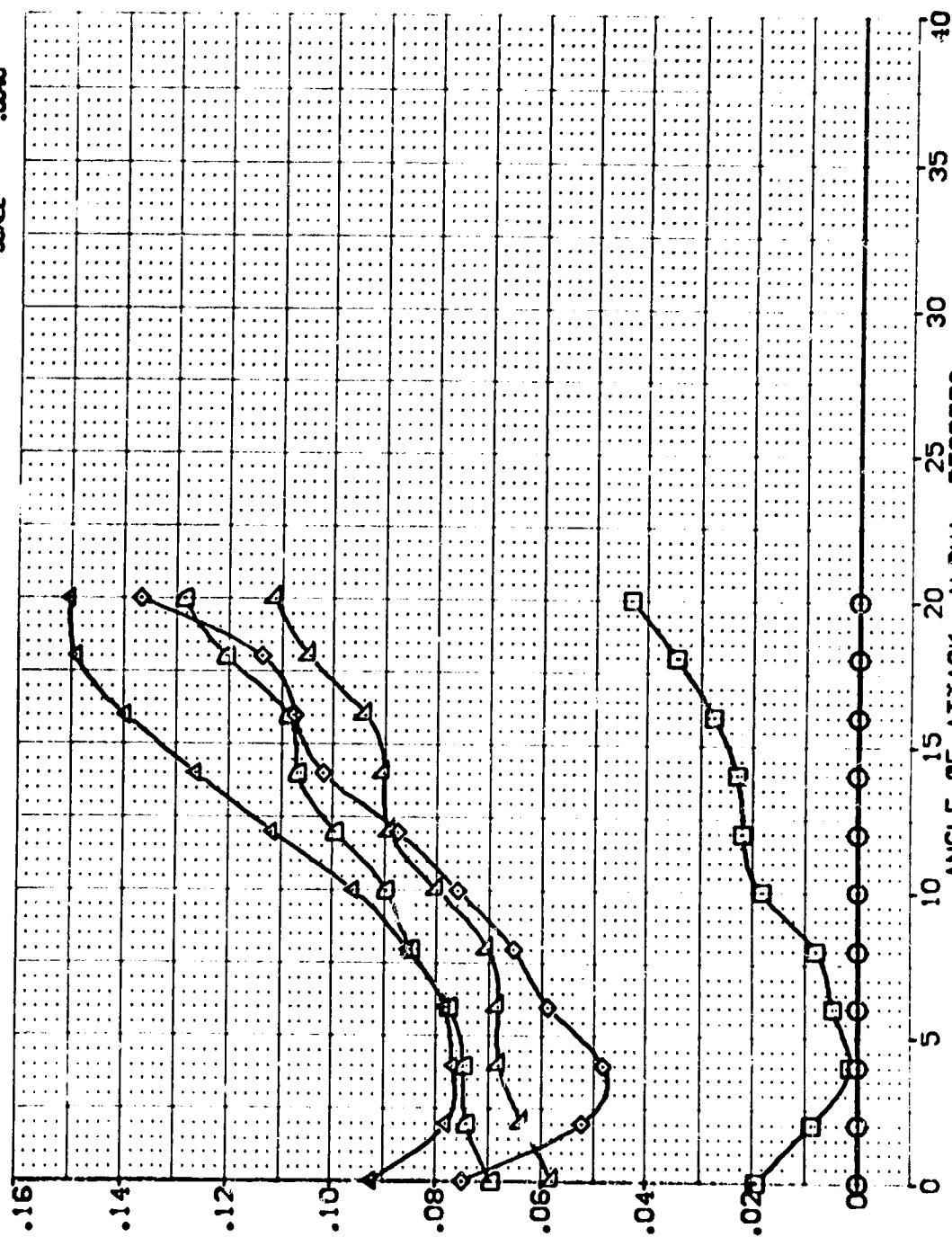
CONFIGURATION DESCRIPTION

(052004) NSFC 581(0A19) DB 3A-0 (BDFH) (VE)(VR)
 (052005) NSFC 581(0A19) DB 3A-0 (BDFH) (VE)(VR)
 (052006) NSFC 581(0A19) DB 3A-0 (BDFH) (VE)(VR)
 (052007) NSFC 581(0A19) DB 3A-0 (BDFH) (VE)(VR)
 (052008) NSFC 581(0A19) DB 3A-0 (BDFH) (VE)(VR)
 (052009) NSFC 581(0A19) DB 3A-0 (BDFH) (VE)(VR)
 (05A116) NSFC 581(0A19) DB 3A-0 (BDFH) (VE)(VR)

ELEVTR 4.180
 BOFLAP -11.700
 SPDRBK 23.500
 4.180 23.500
 4.180 23.500
 4.180 23.500
 16.790 23.500
 16.790 23.500

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XHBP 1081.2800 IN.
 YHBP .0000 IN.
 ZHBP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



ANGLE OF ATTACK, ALPHA, DEGREES

BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(B)MACH = .90



INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELTA C_N

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
[092004]	MSFC S81(0A19) 038 34-0 (BDTH) (VE)(VR)
[092005]	MSFC S81(0A19) 038 34-0 (BDTH) (VE)(VR)
[092007]	MSFC S81(0A19) 038 34-0 (BDTH) (VE)(VR)
[09A115]	MSFC S81(0A19) 038 34-0 (BDTH) (VE)(VR)
[092008]	MSFC S81(0A19) 038 34-0 (BDTH) (VE)(VR)
[09A116]	MSFC S81(0A19) 038 34-0 (BDTH) (VE)(VR)

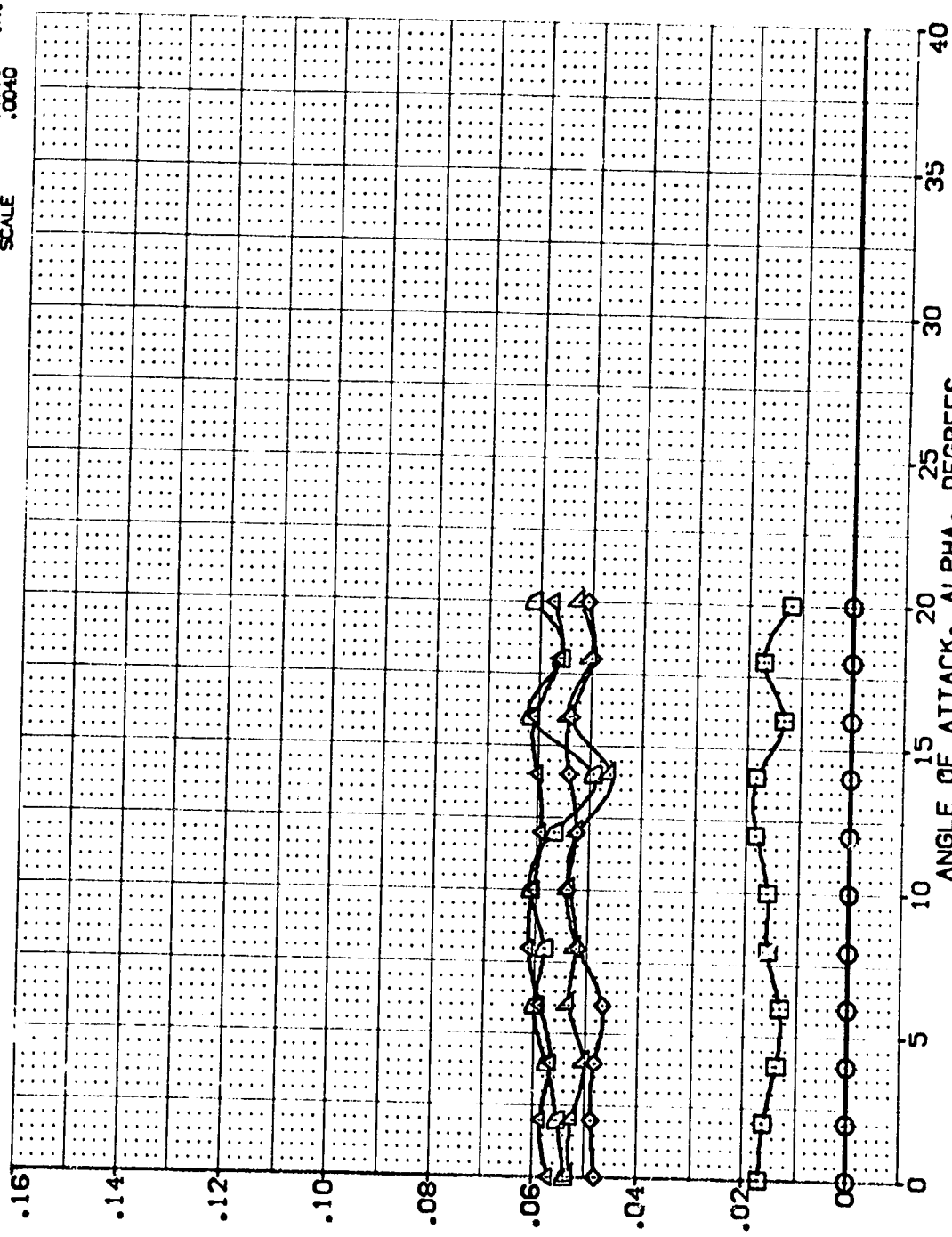
REFERENCE INFORMATION

REFERENCE INFORMATION	VALUE
SREF	2741.8000
LREF	481.6480
BREF	536.7000
XMRP	1081.3500
YMRP	.0000
ZMRP	.0000
SCALE	.0040

ELEVTR 4.160 4.160 4.160 16.790 16.790

BDFLAP -11.00 16.300 22.600 22.600 22.600

SPOBRK 25.550 25.550 25.550 25.550 25.550



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(C)_{MACH} = 1.19

DATA SET SYMBO. CONFIGURATION DESCRIPTION

(S20004)	MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
(S20006)	MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
(S20007)	MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
(S20008)	DATA NOT AVAILABLE
(S20009)	MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
(S20010)	DATA NOT AVAILABLE

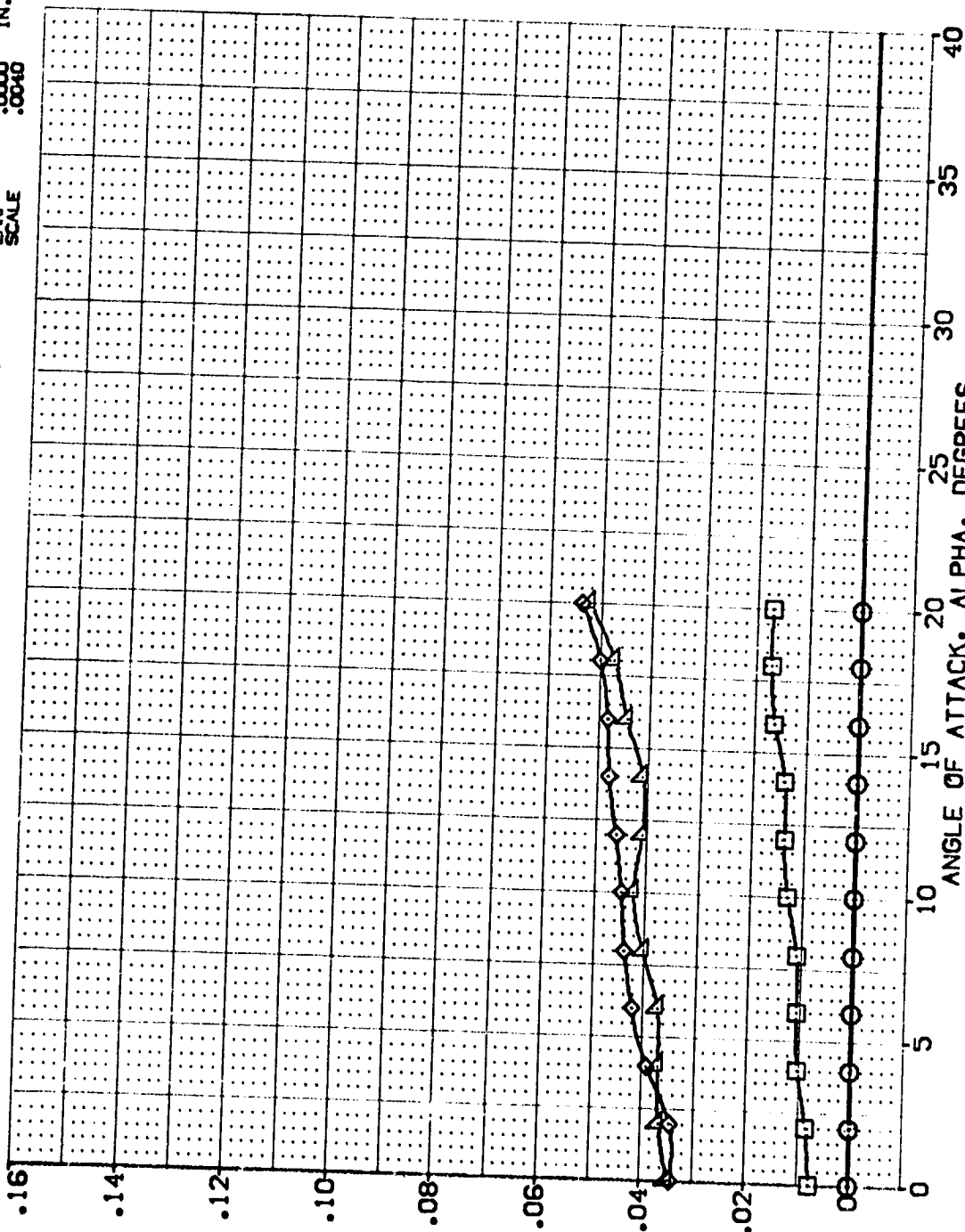
ELEVTR BDFLAP SPOBRK

4.160	-11.700	25.550
4.160	0.000	25.550
4.160	16.300	25.550
16.750	22.600	25.550

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XMRP	1081.3500	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0040	

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(D)MACH = 1.45



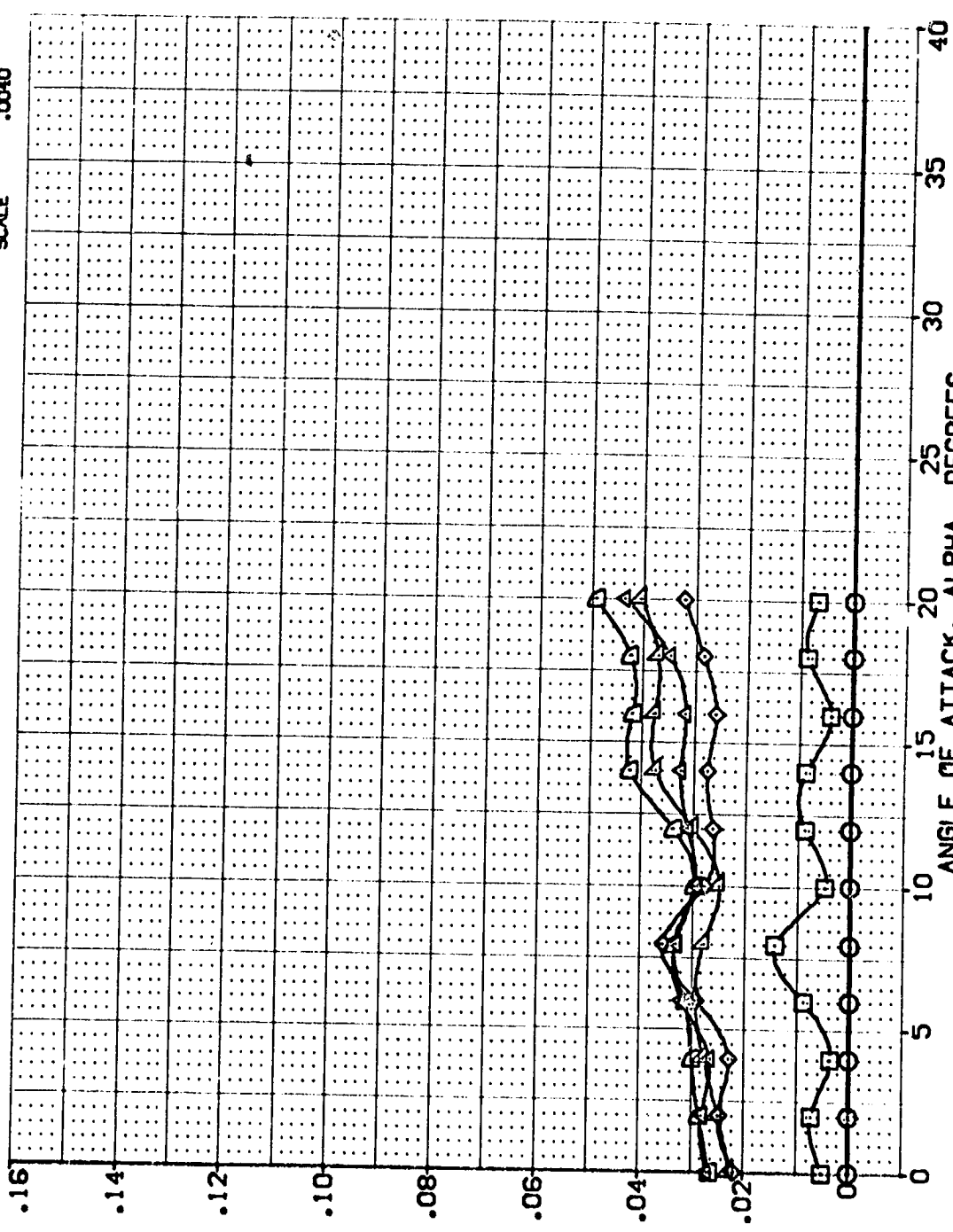
INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

DATA SET SYMBOL
(092004)
(092005)
(092007)
(092115)
(092008)
(092116)

CONFIGURATION DESCRIPTION
MSFC SBI(0A49) 058 34-0 (BCFH) (VE)(VR)
MSFC SBI(0A49) 058 34-0 (BCFH) (VE)(VR)
MSFC SBI(0A49) 058 34-0 (BCFH) (VE)(VR)
MSFC SBI(0A49) 058 34-0 (BCFH) (VE)(VR)
MSFC SBI(0A49) 058 34-0 (BCFH) (VE)(VR)

ELEVTR BOFLAP SPOBRK
4.160 -11.700 25.550
4.160 0.000 25.550
4.160 16.300 25.550
16.750 16.300 25.550
16.750 22.600 25.550

REFERENCE INFORMATION
SREF 2741.8000 50. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XMRP 1081.3900 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(E)MACH = 1.95

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(032004)	MSFC 581(0A49) DB 34-0 (BCFM) (VE)(VR)
(032005)	MSFC 581(0A49) DB 34-0 (BCFM) (VE)(VR)
(032007)	MSFC 581(0A49) DB 34-0 (BCFM) (VE)(VR)
(032115)	DATA NOT AVAILABLE
(032008)	MSFC 581(0A49) DB 34-0 (BCFM) (VE)(VR)
(03A116)	DATA NOT AVAILABLE

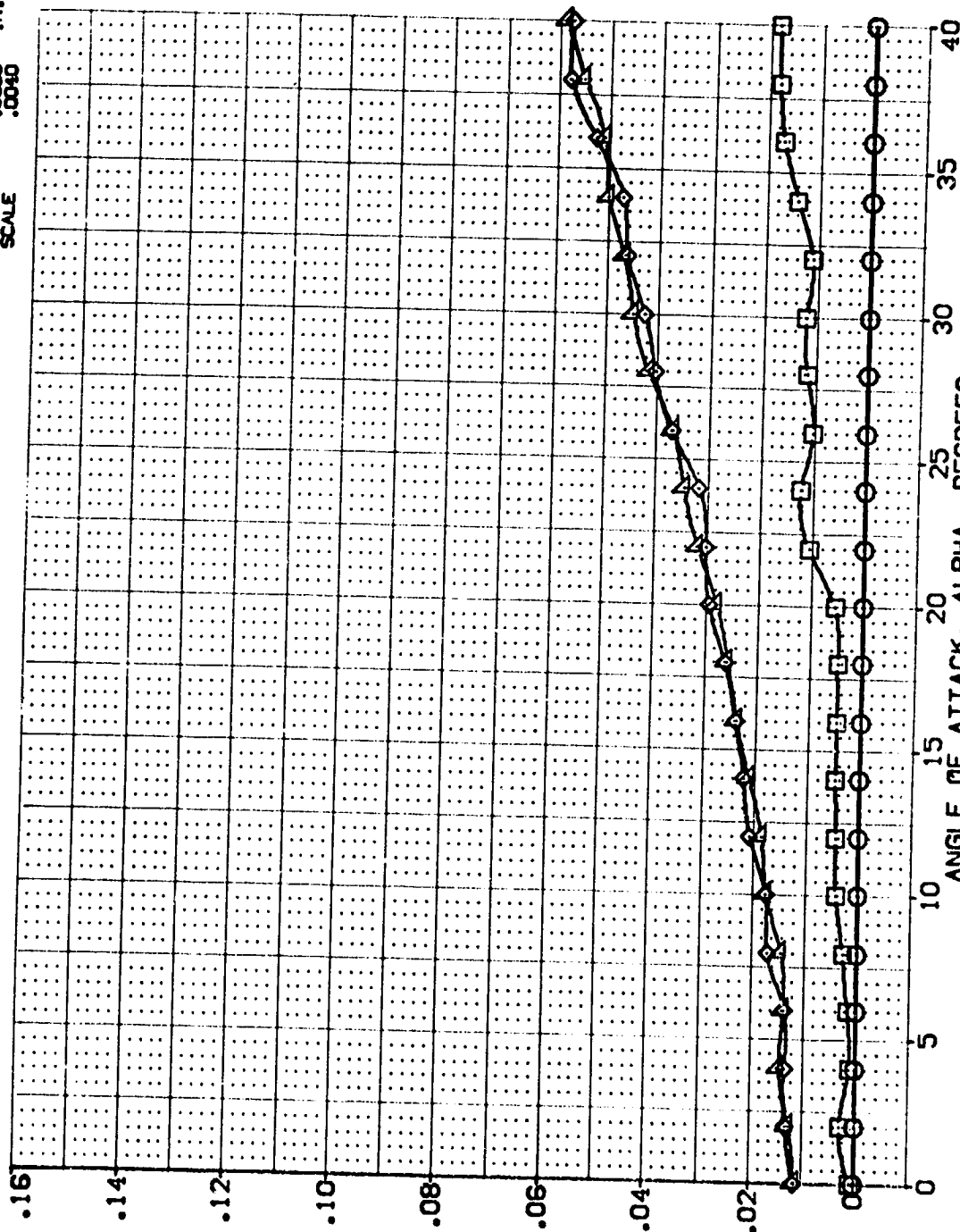
ELEVTR BDFLAP SPOBRK

4.160	-11.700	25.550
4.160	0.000	25.550
4.160	16.300	25.550
16.750	22.600	25.550
16.750	16.300	25.550
16.750	22.600	25.550

REFERENCE INFORMATION

8REF	2741.8000	80. FT
1REF	481.6480	IN.
2REF	536.7000	IN.
3REF	1081.3500	IN.
4REF	1000.0000	IN.
5REF	1000.0000	IN.
6REF	1000.0000	IN.
7REF	1000.0000	IN.
8REF	1000.0000	IN.
9REF	1000.0000	IN.
10REF	1000.0000	IN.
11REF	1000.0000	IN.
12REF	1000.0000	IN.
13REF	1000.0000	IN.
14REF	1000.0000	IN.
15REF	1000.0000	IN.
16REF	1000.0000	IN.
17REF	1000.0000	IN.
18REF	1000.0000	IN.
19REF	1000.0000	IN.
20REF	1000.0000	IN.
21REF	1000.0000	IN.
22REF	1000.0000	IN.
23REF	1000.0000	IN.
24REF	1000.0000	IN.
25REF	1000.0000	IN.
26REF	1000.0000	IN.
27REF	1000.0000	IN.
28REF	1000.0000	IN.
29REF	1000.0000	IN.
30REF	1000.0000	IN.
31REF	1000.0000	IN.
32REF	1000.0000	IN.
33REF	1000.0000	IN.
34REF	1000.0000	IN.
35REF	1000.0000	IN.
36REF	1000.0000	IN.
37REF	1000.0000	IN.
38REF	1000.0000	IN.
39REF	1000.0000	IN.
40REF	1000.0000	IN.
41REF	1000.0000	IN.
42REF	1000.0000	IN.
43REF	1000.0000	IN.
44REF	1000.0000	IN.
45REF	1000.0000	IN.
46REF	1000.0000	IN.
47REF	1000.0000	IN.
48REF	1000.0000	IN.
49REF	1000.0000	IN.
50REF	1000.0000	IN.

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(CJ)MACH = 2.99

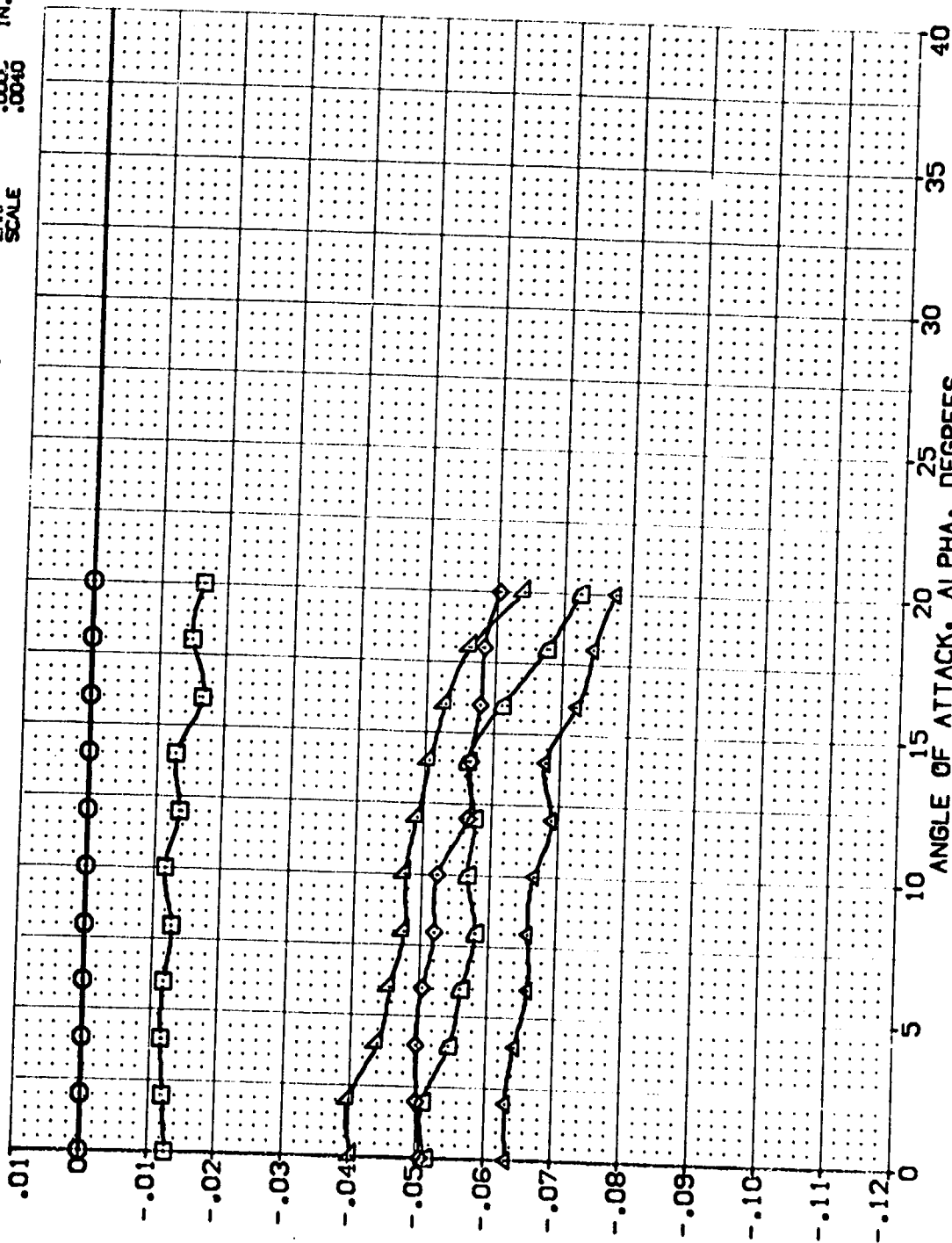
DATA SET SYMBOL CONFIGURATION DESCRIPTION

(082004) HSC 31(OA9) 000 34-0 (BDH) (VE)(VR)
 (082005) HSC 31(OA9) 000 34-0 (BDH) (VE)(VR)
 (082006) HSC 31(OA9) 000 34-0 (BDH) (VE)(VR)
 (082007) HSC 31(OA9) 000 34-0 (BDH) (VE)(VR)
 (082008) HSC 31(OA9) 000 34-0 (BDH) (VE)(VR)
 (082009) HSC 31(OA9) 000 34-0 (BDH) (VE)(VR)

ELEVTR BDFLAP SPDRK
 4.160 -11.700 25.550
 4.160 16.300 25.550
 4.160 22.500 25.550
 16.750 16.300 25.550
 16.750 22.500 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
 CALMACH = .59

DATA SET SYMBOL CONFIGURATION DESCRIPTION

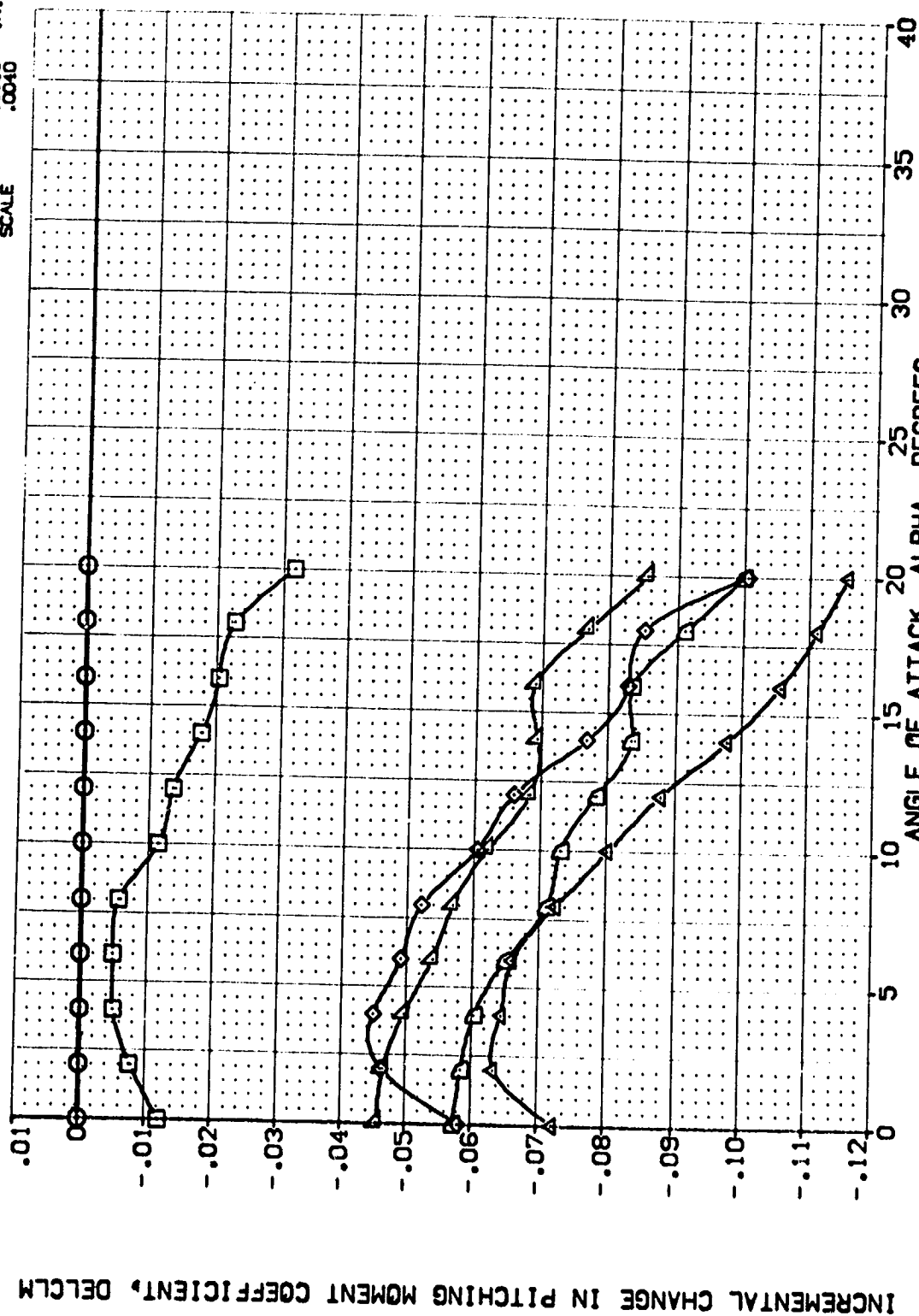
(092004)	MSFC	S81(0A19)	ORB	34-0	(BOTH)	(VE)(VR)
(092005)	MSFC	S81(0A19)	ORB	34-0	(BOTH)	(VE)(VR)
(092007)	MSFC	S81(0A19)	ORB	34-0	(BOTH)	(VE)(VR)
(092008)	MSFC	S81(0A19)	ORB	34-0	(BOTH)	(VE)(VR)
(092009)	MSFC	S81(0A19)	ORB	34-0	(BOTH)	(VE)(VR)

ELEVTR BOFLAP SPOBRK

4.150	-11.700	23.500
4.150	-11.700	23.500
4.150	16.300	23.500
16.750	22.600	23.500
16.750	22.600	23.500

REFERENCE INFORMATION

SREF	2741.8000	SO:	FT
LREF	481.6480	IN:	
BREF	936.7000	IN:	
XMRP	1081.3000	IN:	
YMRP	.0000	IN:	
ZMRP	.0000	IN:	
SCALE	.0040		



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
(B)MACH = .90



DATA SET SYMBOL CONFIGURATION DESCRIPTION

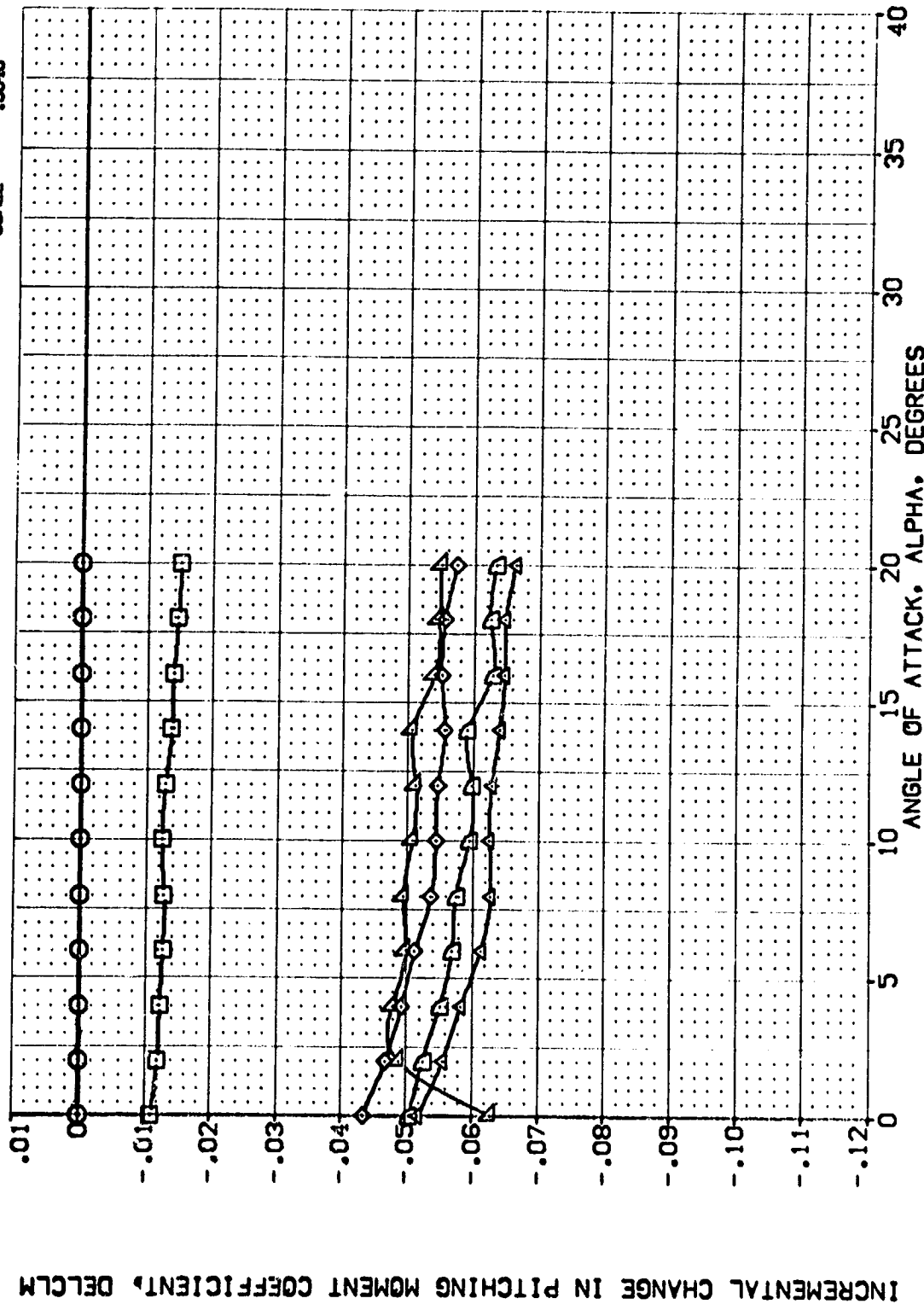
(092004)	MSFC	S81(DA19)	018	34-0	(BOPH)	(VE)(VR)
(092005)	MSFC	S81(DA19)	018	34-0	(BOPH)	(VE)(VR)
(092007)	MSFC	S81(DA19)	018	34-0	(BOPH)	(VE)(VR)
(09A115)	MSFC	S81(DA19)	018	34-0	(BOPH)	(VE)(VR)
(092008)	MSFC	S81(DA19)	018	34-0	(BOPH)	(VE)(VR)
(09A116)	MSFC	S81(DA19)	018	34-0	(BOPH)	(VE)(VR)

ELEVTR BDFLAP SPOBRK

4.150	-11.700	23.550
4.150	16.000	23.550
4.150	16.300	23.550
16.750	22.600	23.550
16.750	22.600	23.550

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XMRP	1081.3900	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0040	



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(C)MACH = 1.19

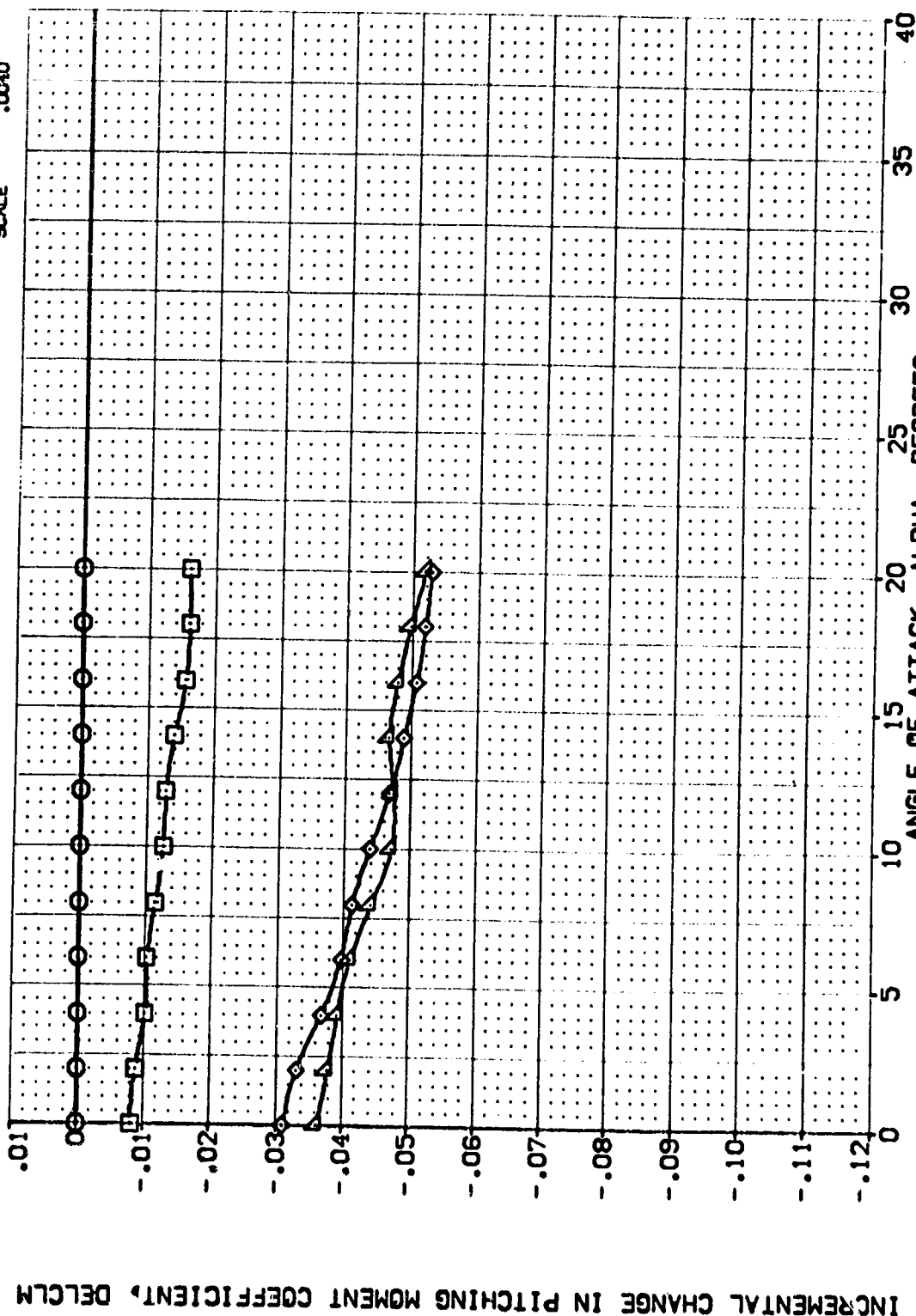
DATA SET SYMBOL

CONFIGURATION DESCRIPTION

MSFC S81(0A49) CRB 34-0 (BOTH) (VE)(VR)
 MSFC S81(0A49) CRB 34-0 (BOTH) (VE)(VR)
 MSFC S81(0A49) CRB 34-0 (BOTH) (VE)(VR)
 DATA NOT AVAILABLE
 MSFC S81(0A49) CRB 34-0 (BOTH) (VE)(VR)
 DATA NOT AVAILABLE

ELEVTR BOFLAP SPDBRK
 4.160 -11.700 25.550
 4.160 0.000 25.550
 4.160 16.300 25.550
 16.750 22.600 25.550
 16.750 16.300 25.550

REFERENCE INFORMATION
 SREF 2741.8000 52.17
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0040 IN.
 SCALE



INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELTA C_m

BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(O)MACH = 1.46

DATA SET SYMBOLS: \square \diamond \triangle ∇

CONFIGURATION DESCRIPTION:

MSFC	581(0A49)	0R3	34-0	(BOTH)	(VE)(VR)
(022004)					
(022006)					
(022007)					
(022015)					
(022008)					
(022016)					

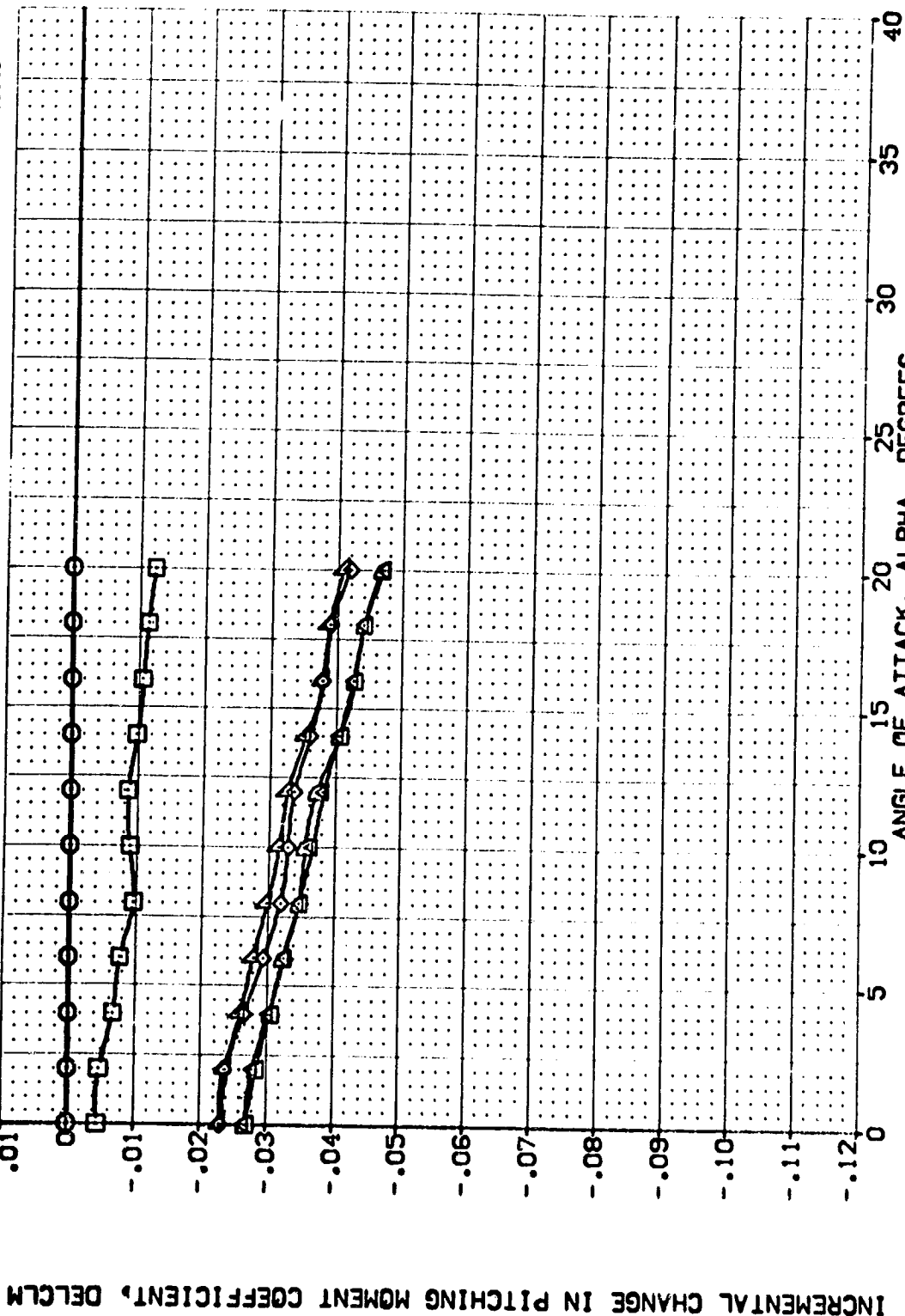
REFERENCE INFORMATION:

SREF	2741.8000	90. FT
LREF <td>481.6480 <td>IN.</td> </td>	481.6480 <td>IN.</td>	IN.
BREF <td>536.7000 <td>IN.</td> </td>	536.7000 <td>IN.</td>	IN.
XPRP <td>1081.3000 <td>IN.</td> </td>	1081.3000 <td>IN.</td>	IN.
YPRP <td>.0000 <td>IN.</td> </td>	.0000 <td>IN.</td>	IN.
ZPRP <td>.0000 <td>IN.</td> </td>	.0000 <td>IN.</td>	IN.
SCALE <td>.0040 <td></td> </td>	.0040 <td></td>	

ELEVTR: 4.150, 4.150, 4.150, 4.150, 16.750, 16.750

BDFLAP: -11.700, 18.000, 22.600, 22.600, 22.600, 22.600

SPDRK: 25.550, 25.550, 25.550, 25.550, 25.550, 25.550



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(E)MACH = 1.95

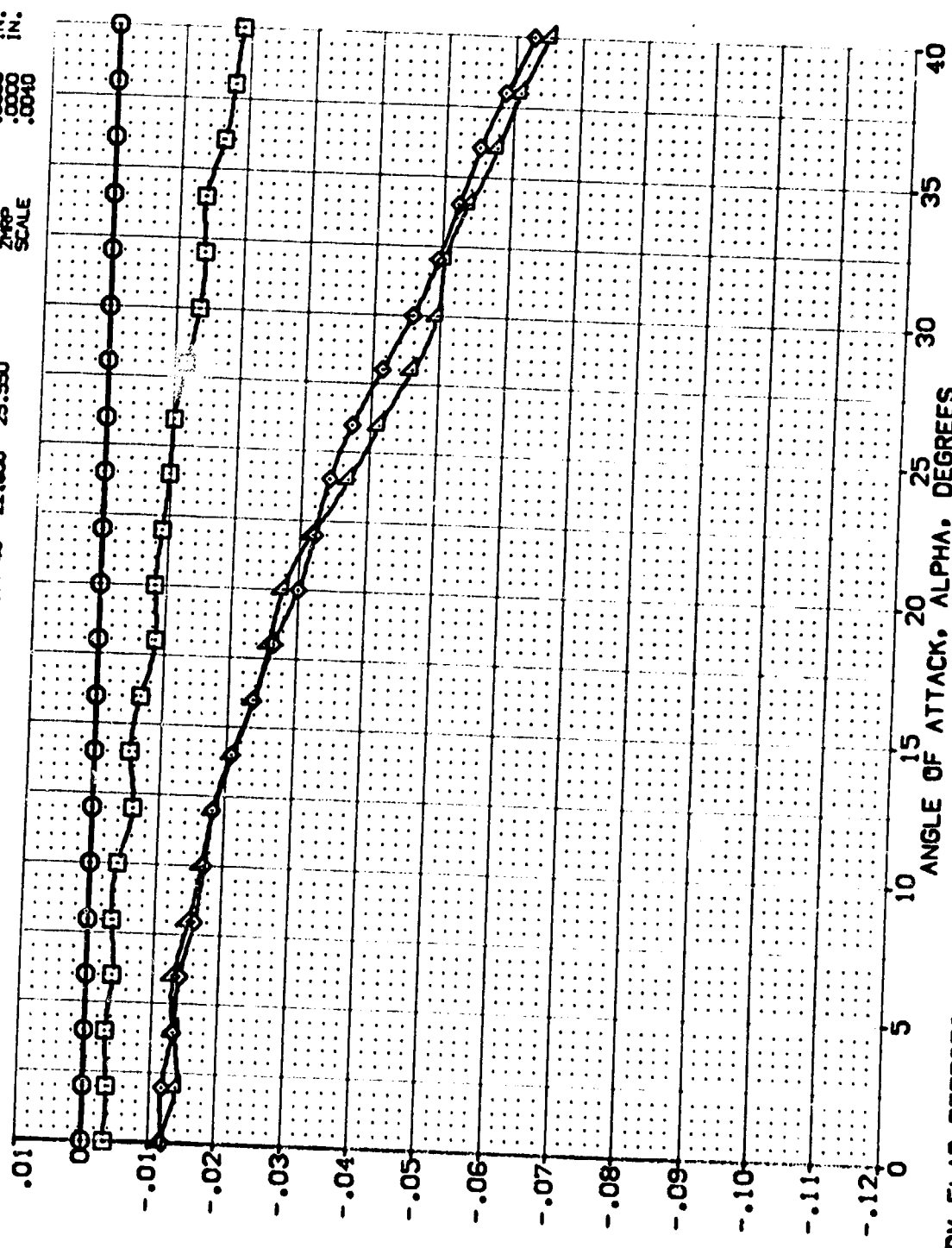


INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCM

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(022004) MSFC 501(0419) ORB 34-0 (BOTH) (VE)(VR)
(022005) MSFC 531(0419) ORB 34-0 (BOTH) (VE)(VR)
(022007) MSFC 501(0419) ORB 34-0 (BOTH) (VE)(VR)
(02A115) DATA NOT AVAILABLE
(022008) MSFC 501(0419) ORB 34-0 (BOTH) (VE)(VR)
(02A116) DATA NOT AVAILABLE

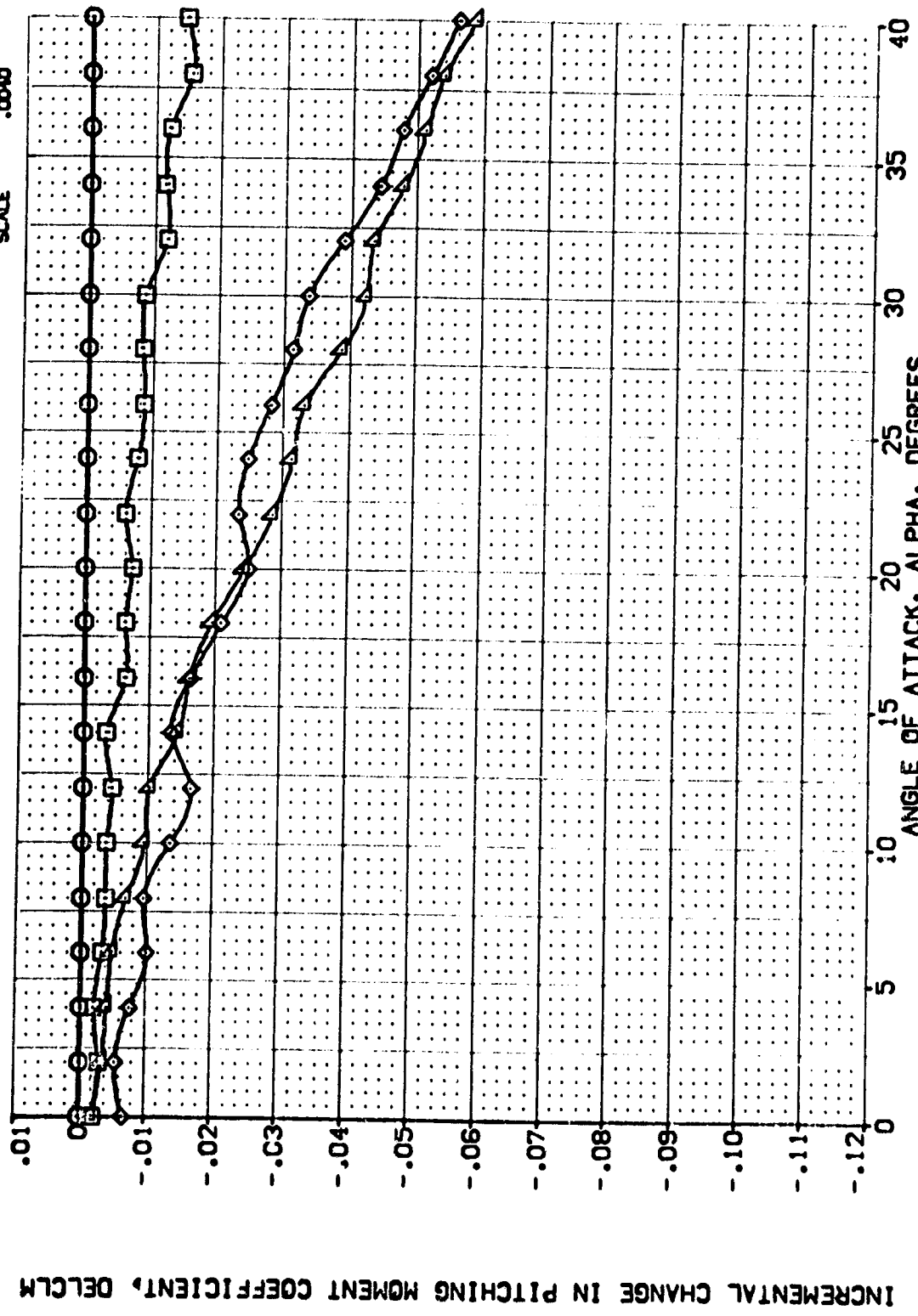
ELEVTR BOFLAP SPDBRK
4.180 -11.700 25.500
4.180 16.300 22.500
4.180 22.600 23.500
16.750 16.300 23.500
16.750 22.600 23.500

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 938.7000 IN.
XPRP 1081.3500 IN.
YPRP .0000 IN.
ZPRP .0000 IN.
SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
(F)MACH = 2.99

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPDGRK	REFERENCE INFORMATION
(082004)	HSFC 581(OA19) CRB 34-0 (BDTH) (VE)(VR)	4.150	-11.700	23.500	SREF 2741.8000 SQ. FT
(082005)	HSFC 581(OA19) CRB 34-0 (BDTH) (VE)(VR)	4.150	-11.700	23.500	LREF 481.6480 IN.
(082007)	HSFC 581(OA19) CRB 34-0 (BDTH) (VE)(VR)	4.150	16.000	23.500	BREF 536.7000 IN.
(082008)	DATA NOT AVAILABLE	16.750	22.600	23.500	XREF 1081.3000 IN.
(082009)	HSFC 581(OA19) CRB 34-0 (BDTH) (VE)(VR)	16.750	16.000	23.500	YREF .0000 IN.
(082010)	DATA NOT AVAILABLE	16.750	22.600	23.500	ZREF .0000 IN.
					SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(G)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(082004)	MSFC	S31(DA19)	CRB	34-0	(BOTH)	(VE)(VR)
(082005)	MSFC	S31(DA19)	CRB	34-0	(BOTH)	(VE)(VR)
(082007)	MSFC	S31(DA19)	CRB	34-0	(BOTH)	(VE)(VR)
(082115)	MSFC	S31(DA19)	CRB	34-0	(BOTH)	(VE)(VR)
(082008)	MSFC	S31(DA19)	CRB	34-0	(BOTH)	(VE)(VR)
(082116)	MSFC	S31(DA19)	CRB	34-0	(BOTH)	(VE)(VR)

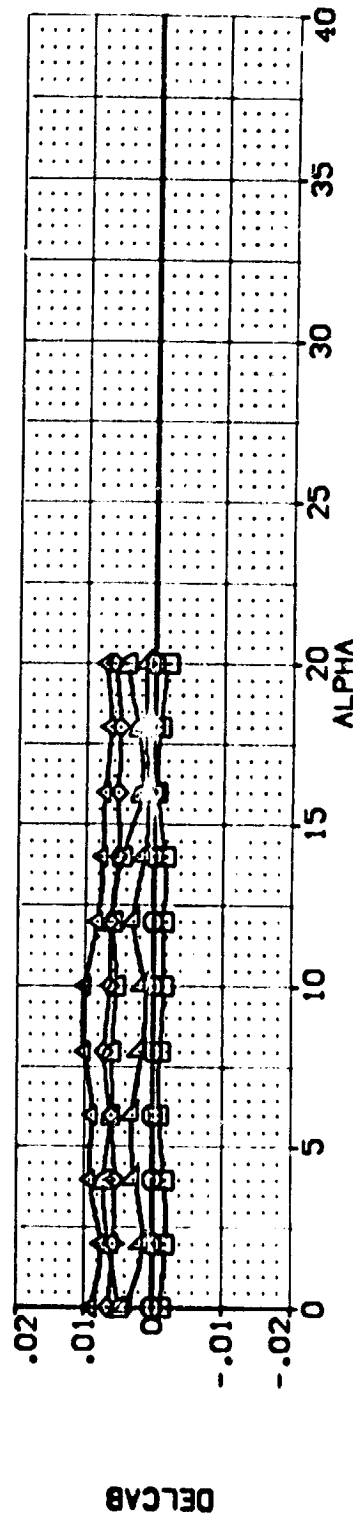
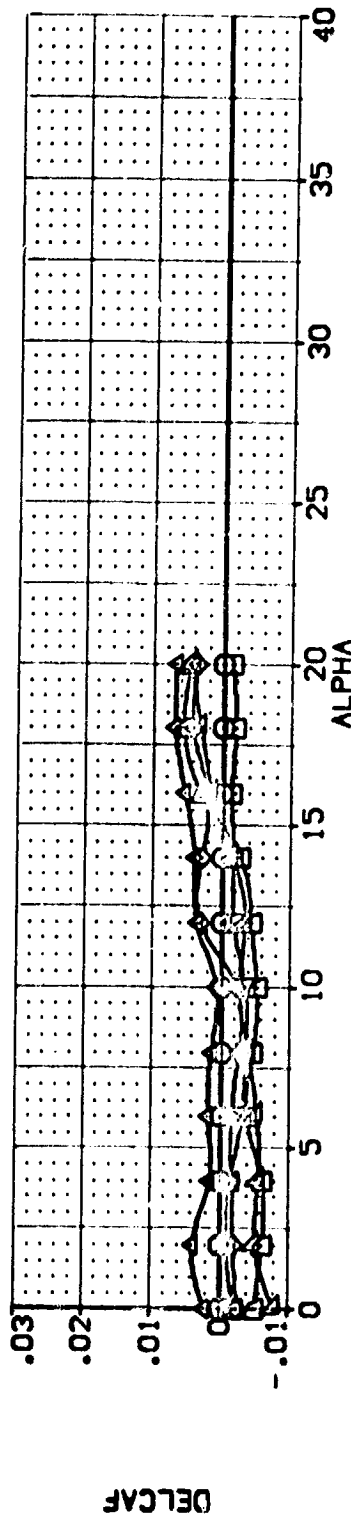
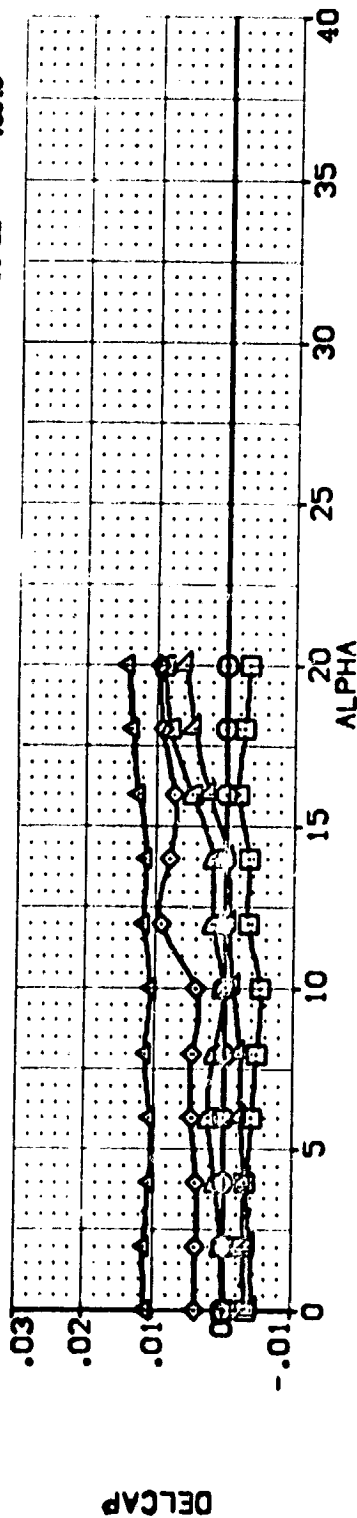
ELEVTR 4.150
4.150
4.150
4.150
16.750

BDFLAP -11.700
16.000
22.500
16.300
22.500

SP0BRK 23.550
23.550
23.550
23.550
23.550

REFERENCE INFORMATION

SPREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XPRP	1081.3500	IN.
YPRP	.0000	IN.
ZPRP	.0000	IN.
SCALE	.0040	



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(A)MACH = .59

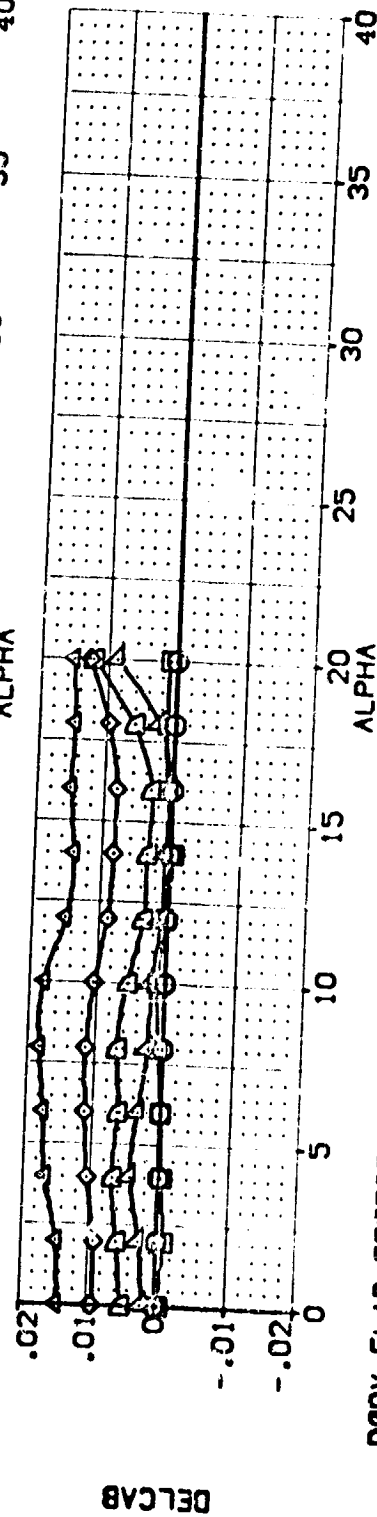
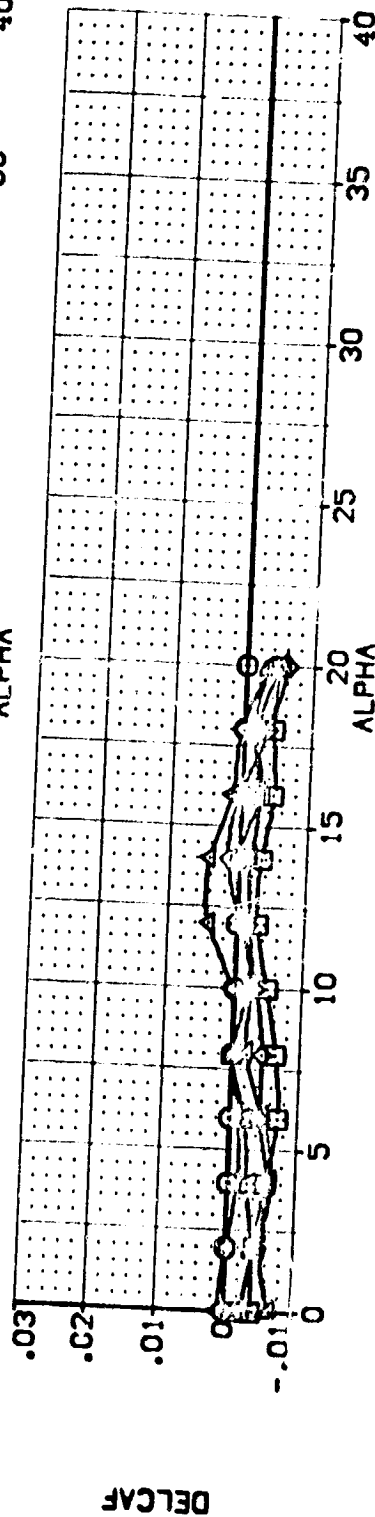
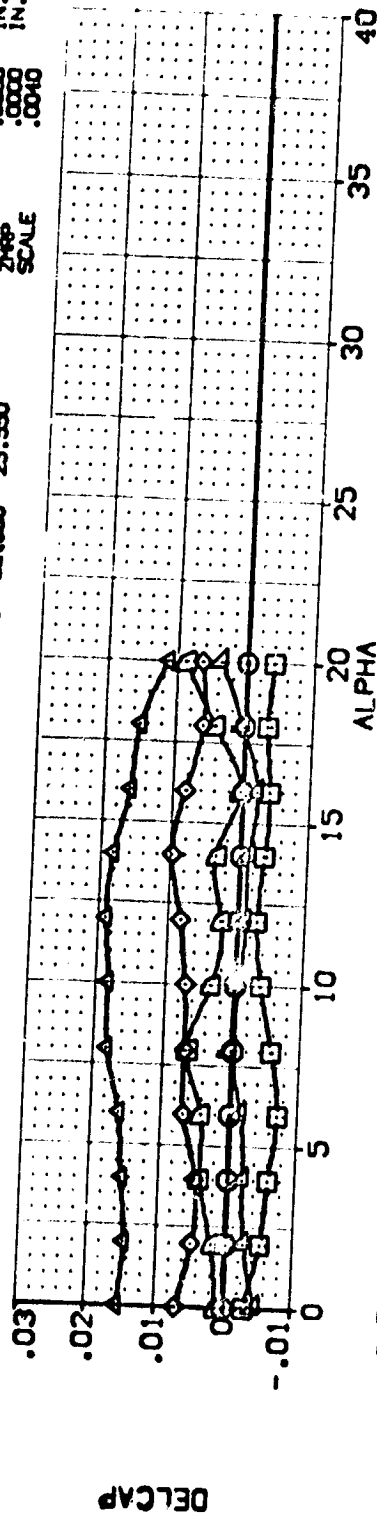


CONJUGATION DESCRIPTION


LOCATION	DESCRIPTION	UNIT	QTY	PRICE	TOTAL
00004	00004	00004	00004	00004	00004
00005	00005	00005	00005	00005	00005
00006	00006	00006	00006	00006	00006
00007	00007	00007	00007	00007	00007
00008	00008	00008	00008	00008	00008
00009	00009	00009	00009	00009	00009
00010	00010	00010	00010	00010	00010
00011	00011	00011	00011	00011	00011
00012	00012	00012	00012	00012	00012
00013	00013	00013	00013	00013	00013
00014	00014	00014	00014	00014	00014
00015	00015	00015	00015	00015	00015
00016	00016	00016	00016	00016	00016

ELEVTR	BOFLAP	SPOBK
4.160	-11.700	22.500
4.160	0.000	22.500
4.160	16.300	22.500
4.160	22.600	22.500
16.750	16.300	22.500
16.750	22.600	22.500

REFERENCE INFORMATION		
	2741	8000
SREF	2741	8000
LREF	481	6480
BREF	936	7000
XREF	10	3000
YREF		0000
ZREF		0000
SCALE		0040



ALPHA
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
(B)MACH = .90

DATA SET SYMBOL: 

CONFIGURATION DESCRIPTION:

MS-C 581 (0A19)	ORB 34-0	(BOH)	(VE)(VR)
MS-C 581 (0A19)	ORB 34-0	(BOH)	(VE)(VR)
MS-C 581 (0A19)	ORB 34-0	(BOH)	(VE)(VR)
MS-C 581 (0A19)	ORB 34-0	(BOH)	(VE)(VR)
MS-C 581 (0A19)	ORB 34-0	(BOH)	(VE)(VR)

REFERENCE INFORMATION:

SREF	2741.8000	IN.
LREF	481.6480	IN.
BREF	536.7000	IN.
XTRP	1081.3500	IN.
YTRP	.0000	IN.
ZTRP	.0000	IN.
SCALE	.0040	

ELEVTR

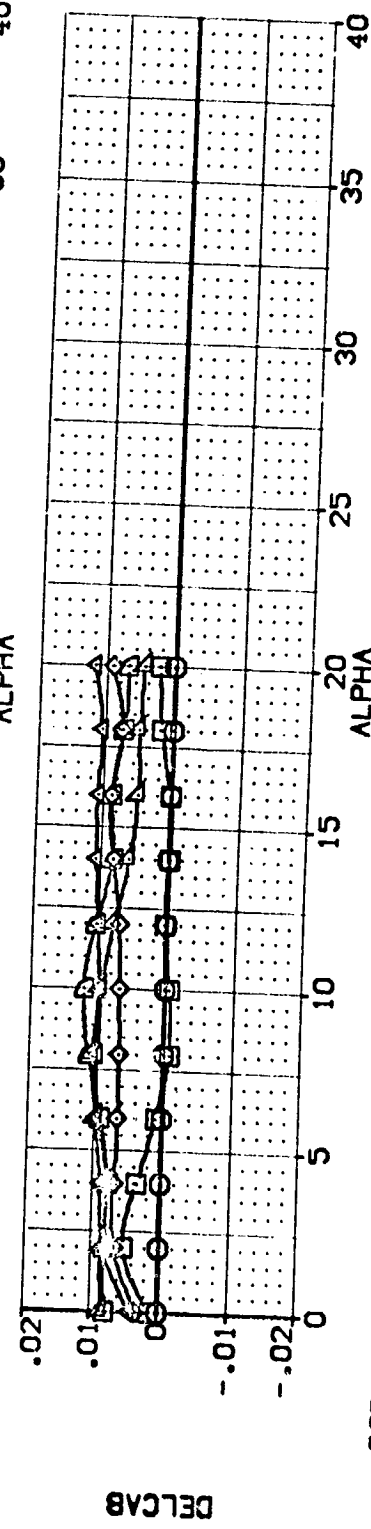
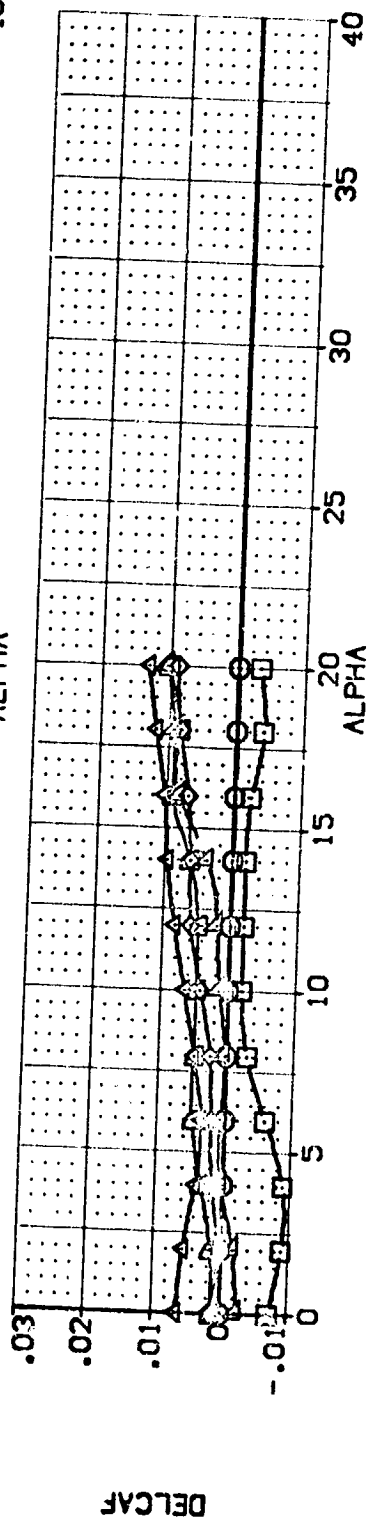
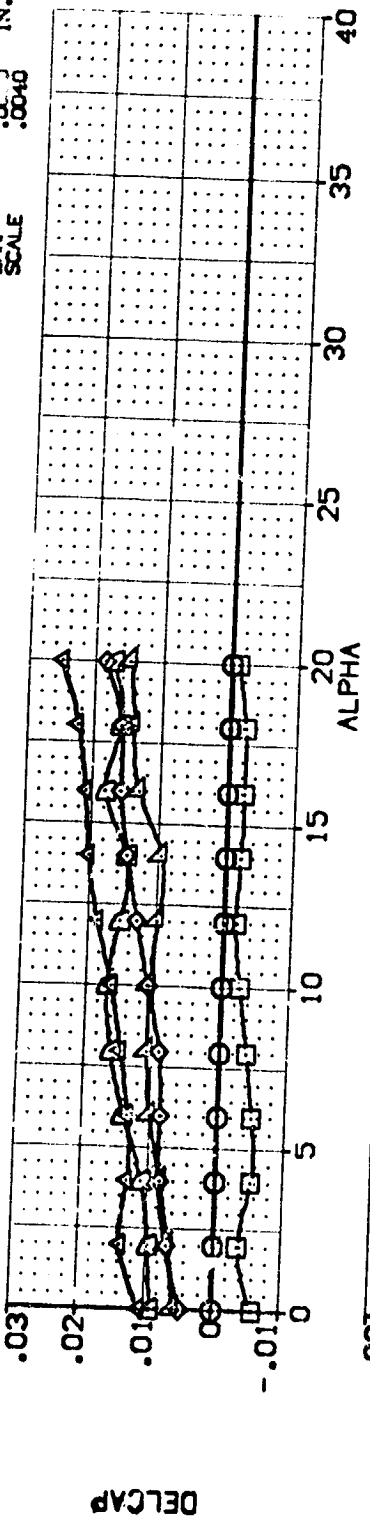
4.160
4.160
4.160
16.790
16.790

BOFLAP

-11.700
15.200
22.800
22.800
22.800

SPDRK

22.550
22.550
22.550
22.550
22.550



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

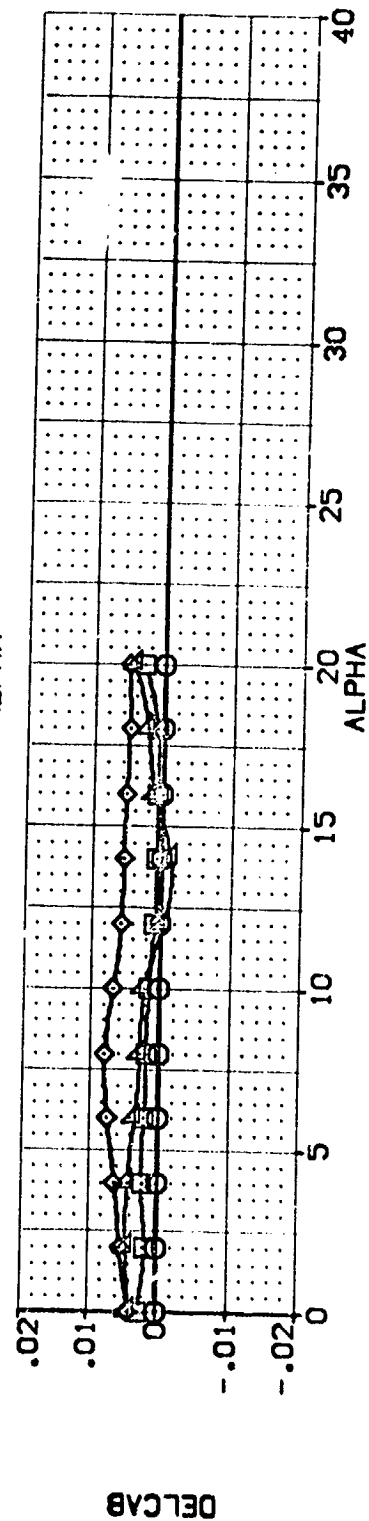
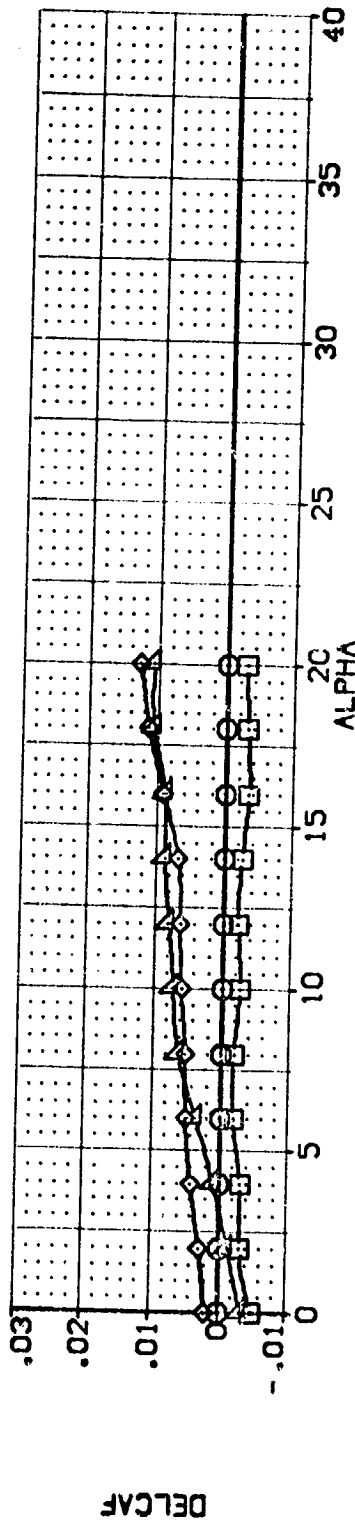
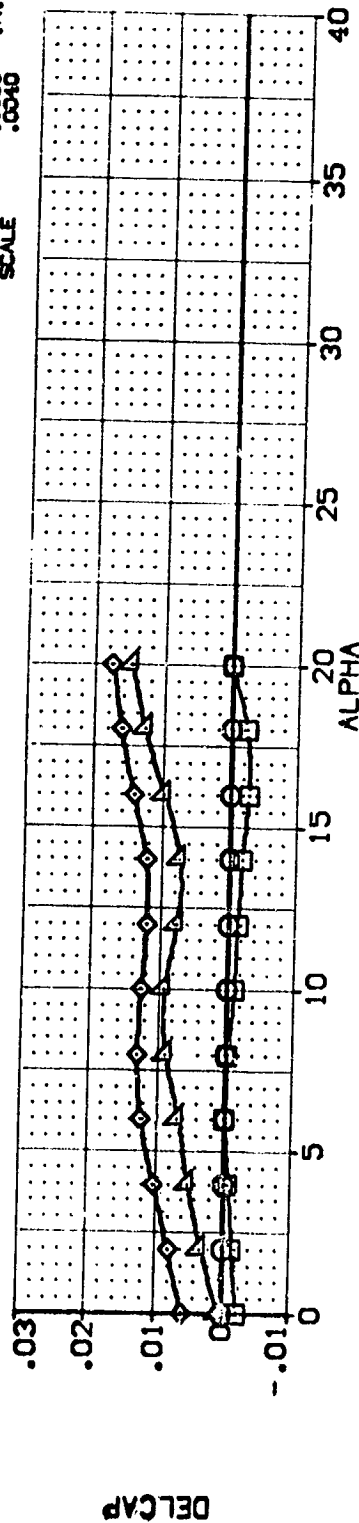
(C)MACH = 1.19



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (020004) MSFC 581(0A49) DB 34-O (BOFM) (VE)(VR)
 (020005) MSFC 581(0A49) DB 34-O (BOFM) (VE)(VR)
 (020007) MSFC 581(0A49) DB 34-O (BOFM) (VE)(VR)
 (020008) DATA NOT AVAILABLE
 (020009) MSFC 581(0A49) DB 34-O (BOFM) (VE)(VR)
 (020010) DATA NOT AVAILABLE

ELEVTR BDFLAP SPCLBK
 4.160 -11.700 25.550
 4.160 0.000 25.550
 4.160 16.300 25.550
 16.750 22.600 25.550
 16.750 16.300 25.550
 16.750 22.600 25.550

REFERENCE INFORMATION
 SREF 2741.8000 52. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(0)MACH = 1.46

DATA SET SYMBOL

(092004)
(092006)
(092007)
(092008)
(092009)
(092010)

CONFIGURATION DESCRIPTION

MSF S81(0A49) 033 34-0 (BCH) (VE)(VR)
MSF S81(0A49) 033 34-0 (BCH) (VE)(VR)
MSF S81(0A49) 033 34-0 (BCH) (VE)(VR)
MSF S81(0A49) 033 34-0 (BCH) (VE)(VR)
MSF S81(0A49) 033 34-0 (BCH) (VE)(VR)
MSF S81(0A49) 033 34-0 (BCH) (VE)(VR)

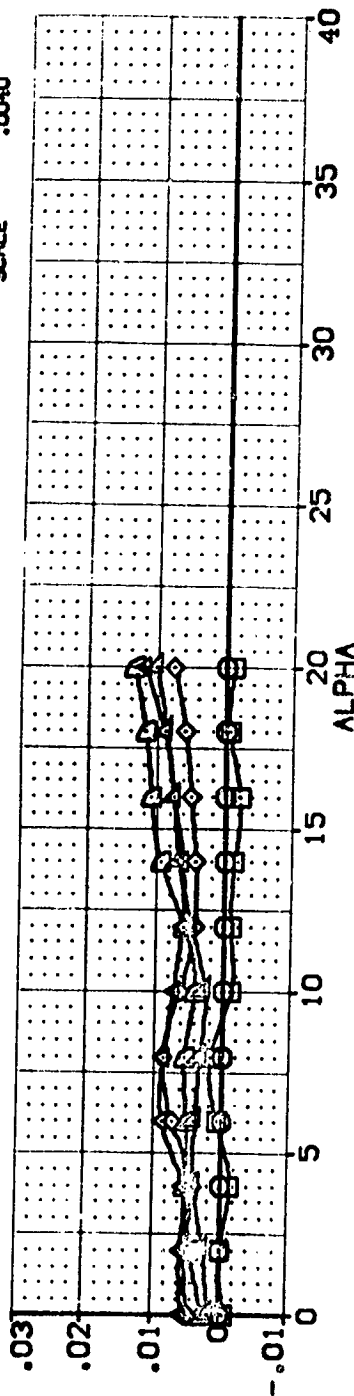
ELEVTR 4.180
4.180
4.180
4.180
16.750
16.750

BDFLAP -11.700
16.300
22.600
16.300
22.600

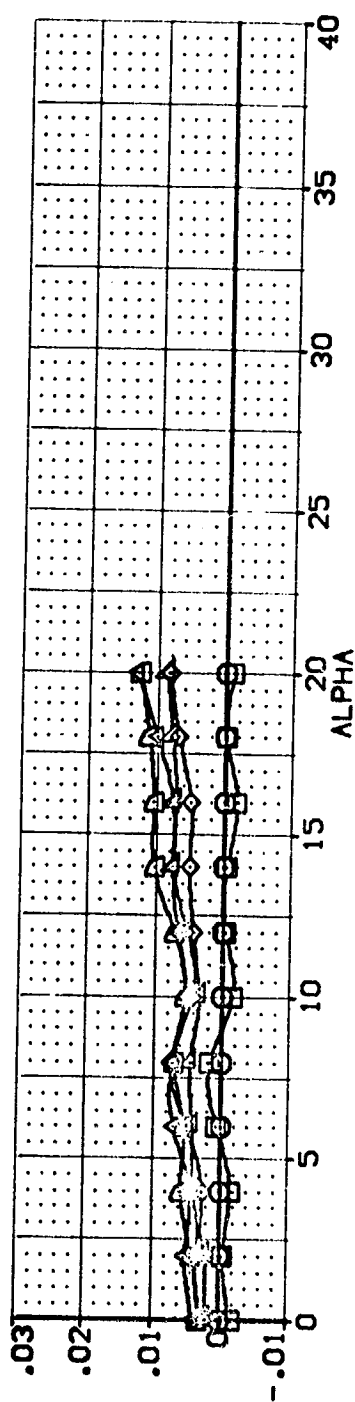
SPDRK 25.550
25.550
25.550
25.550
25.550
25.550

REFERENCE INFORMATION
SREF 274.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XREF 1081.3500 IN.
YREF 1000 IN.
ZREF 1000 IN.
SCALE .0040

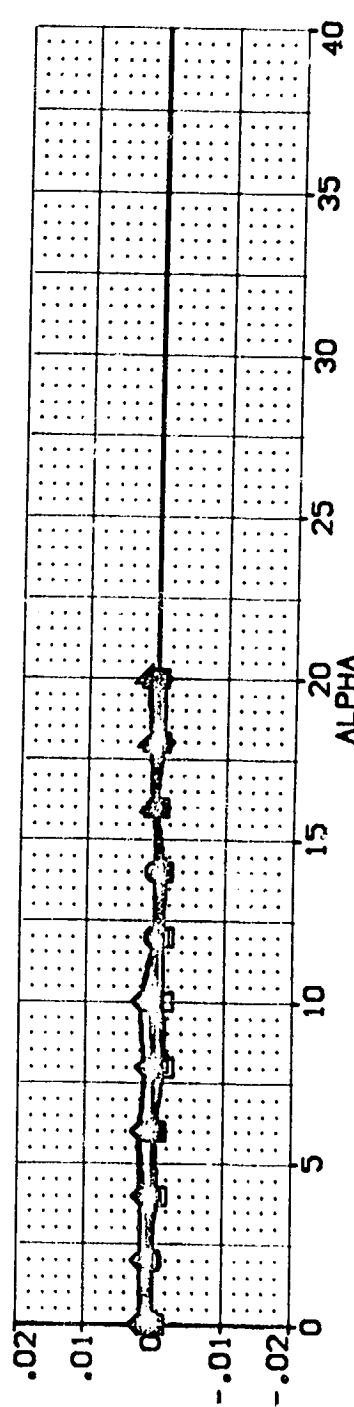
DELCAE



DELCAF



DELCAB



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(E)MACH = 1.95



DATA SET SYMBOL CONFIGURATION DESCRIPTION

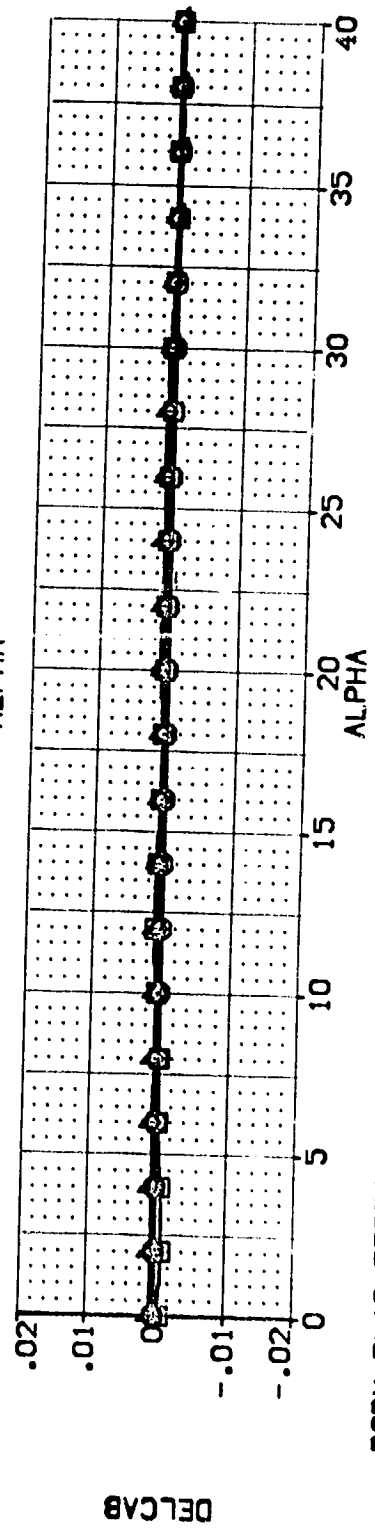
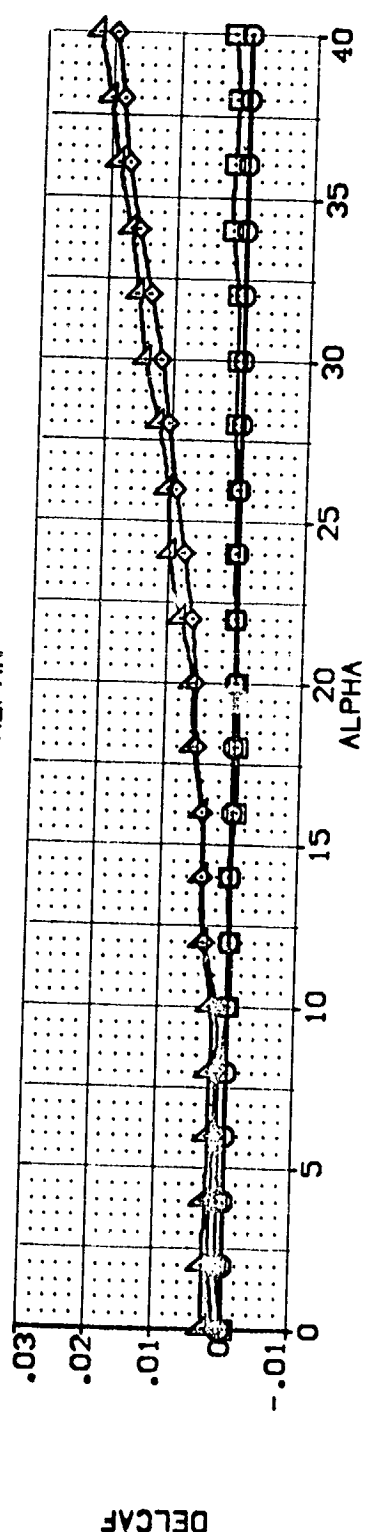
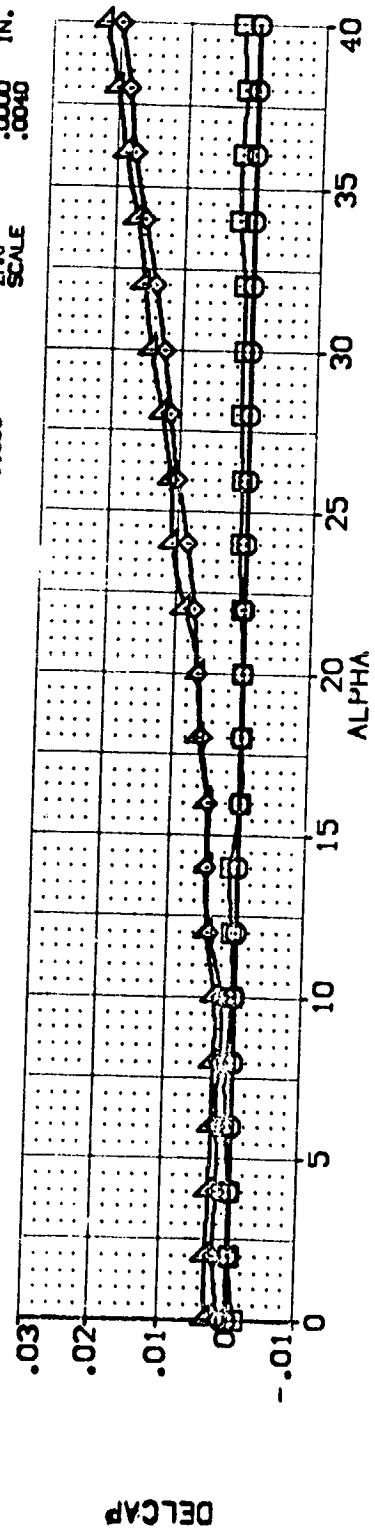
082004	MSFC 581 (0449) ORB 34-0 (BOTH) (VE)(VR)
082006	MSFC 581 (0449) ORB 34-0 (BOTH) (VE)(VR)
082007	MSFC 581 (0449) ORB 34-0 (BOTH) (VE)(VR)
082008	DATA NOT AVAILABLE
082009	DATA NOT AVAILABLE
082010	DATA NOT AVAILABLE

ELEVTR BOFLAP SPDRBK

4.160	-11.700	25.550
4.160	16.300	25.550
4.160	16.300	25.550
4.160	16.300	25.550
16.750	16.300	25.550

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XPRP	1081.3500	IN.
YPRP	.0000	IN.
ZPRP	.0000	IN.
SCALE	.0040	



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(F)MACH = 2.99

DATA SET SYMBOL CONFIGURATION DESCRIPTION

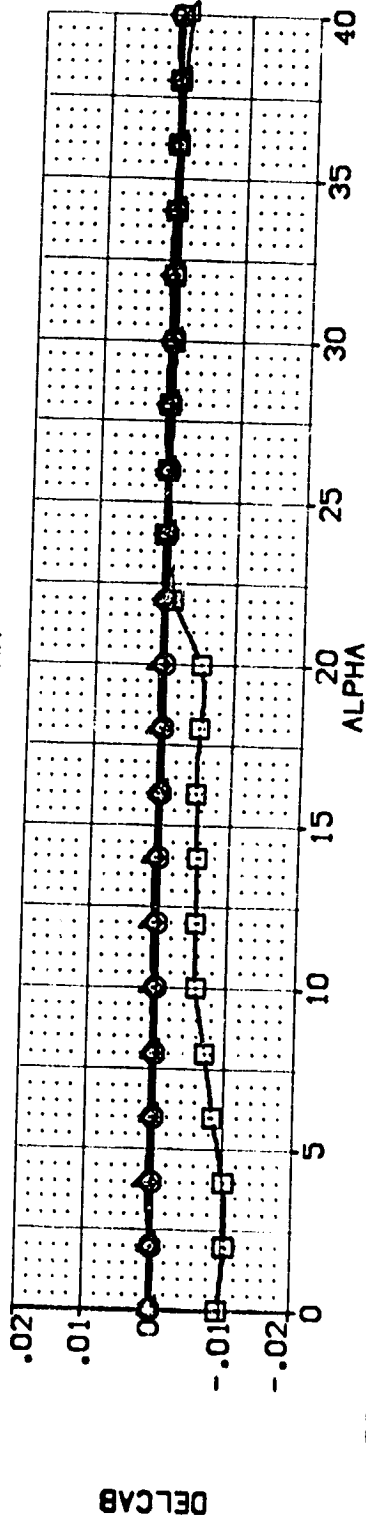
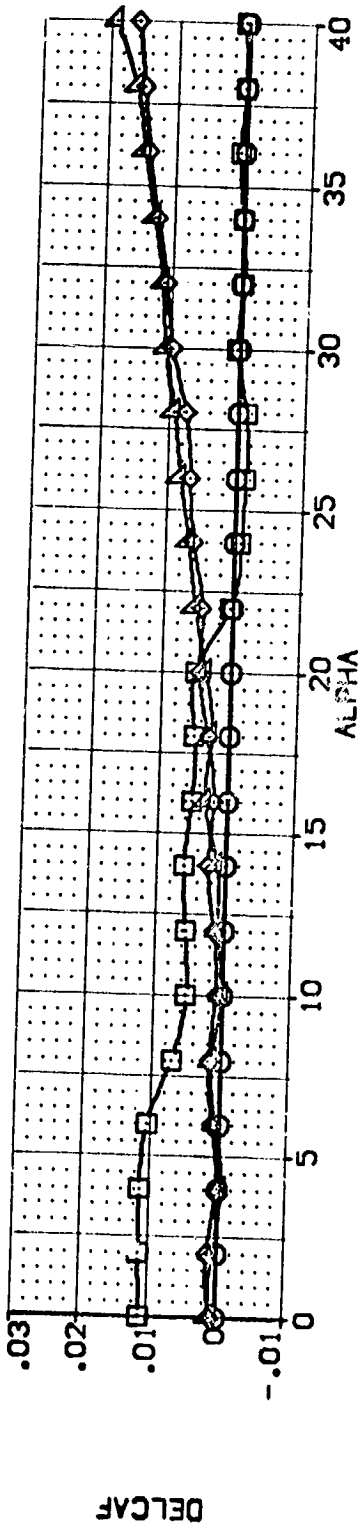
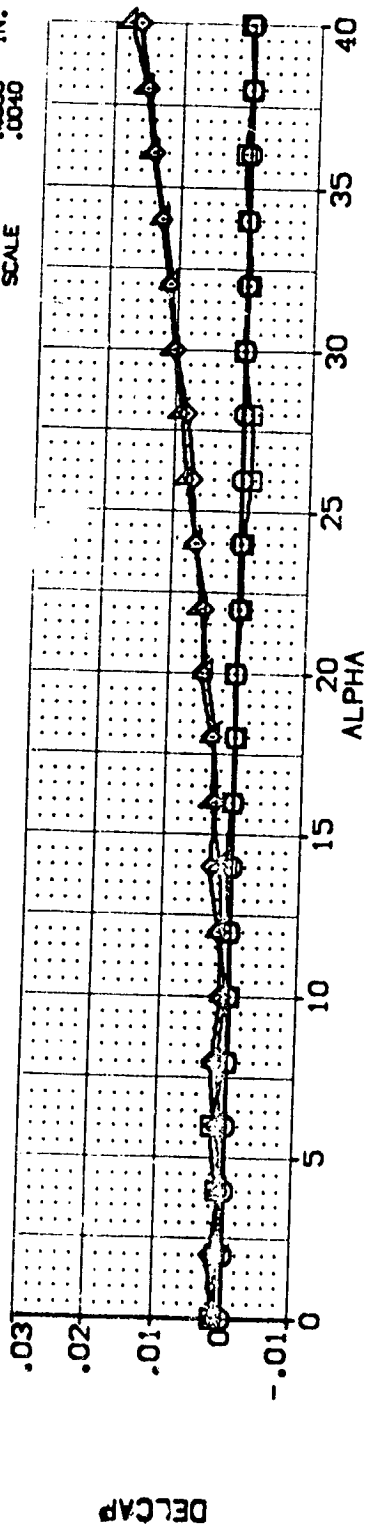
[022004] MSFC 581(0A49) DBB 34-0 (BCFM) (VE)(VR)
 [022005] MSFC 581(0A49) DBB 34-0 (BCFM) (VE)(VR)
 [022007] MSFC 581(0A49) DBB 34-0 (BCFM) (VE)(VR)
 [022008] DATA NOT AVAILABLE
 [022009] MSFC 581(0A49) DBB 34-0 (BCFM) (VE)(VR)
 [022010] DATA NOT AVAILABLE

ELEVTR BDFLAP SDFBRK

4.160 -11.700 25.550
 4.160 16.300 25.550
 4.160 16.300 25.550
 16.750 22.600 25.550
 16.750 22.600 25.550

REFERENCE INFORMATION

\$REF 2741.8000 SQ. FT
 IREF 481.6480 IN.
 AREF 936.7000 IN.
 YMRP 1081.3500 IN.
 ZMRP .0000 IN.
 SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(G)MACH = 4.96

DATA SET SYMBOL

492004
 492006
 492007
 492115
 492008
 492116

CONFIGURATION DESCRIPTION

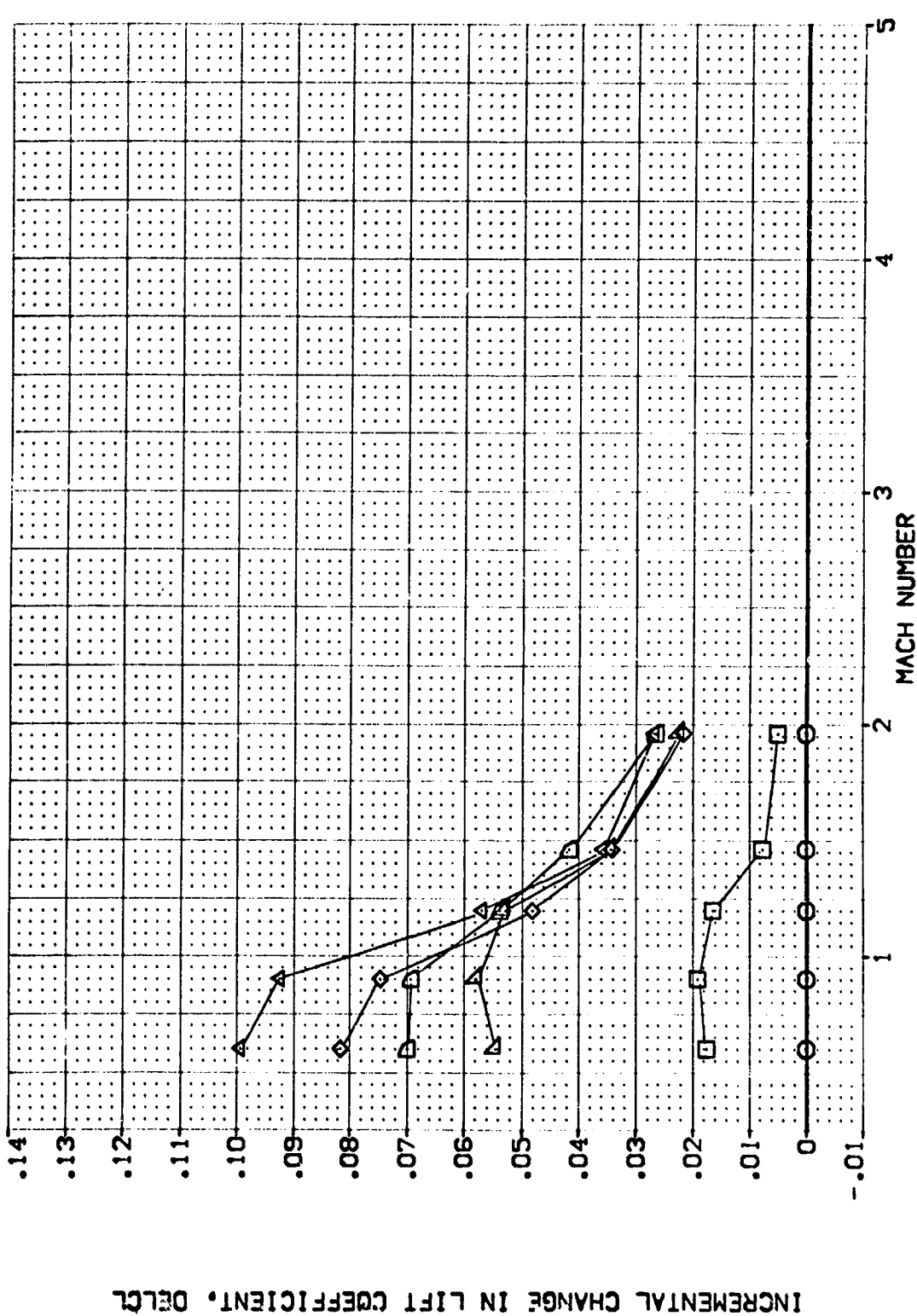
HSC 581(OA49) CRB 34-0 (BC-M) (VE)(VR)
 HSC 581(OA49) CRB 34-0 (BC-M) (VE)(VR)
 HSC 581(OA49) CRB 34-0 (BC-M) (VE)(VR)
 HSC 581(OA49) CRB 34-0 (BC-M) (VE)(VR)
 HSC 581(OA49) CRB 34-0 (BC-M) (VE)(VR)

ELEVTR BOFLAP SPOBRK

4.160 -11.700 25.550
 4.160 0.000 25.550
 4.160 16.300 25.550
 4.160 22.600 25.550
 16.750 16.300 25.550

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3900 IN.
 YREF 0.0000 IN.
 ZREF 0.0000 IN.
 SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(ALPHA = .00

DATA SET SYMBOL

(452004) 
 (452005) 
 (452006) 
 (452007) 
 (452115) 
 (452008) 
 (452116) 

CONFIGURATION DESCRIPTION

H5FC 581 (0A49) DBB 34-0 (BOTH) (VE)(VR)
 H5FC 581 (0A49) DBB 34-0 (BOTH) (VE)(VR)
 H5FC 581 (0A49) DBB 34-0 (BOTH) (VE)(VR)
 H5FC 581 (0A49) DBB 34-0 (BOTH) (VE)(VR)
 H5FC 581 (0A49) DBB 34-0 (BOTH) (VE)(VR)

ELEVTR

4.160
 4.160
 4.160
 16.750
 16.750

BOFLAP

-11.700
 16.200
 22.600
 16.300
 22.600

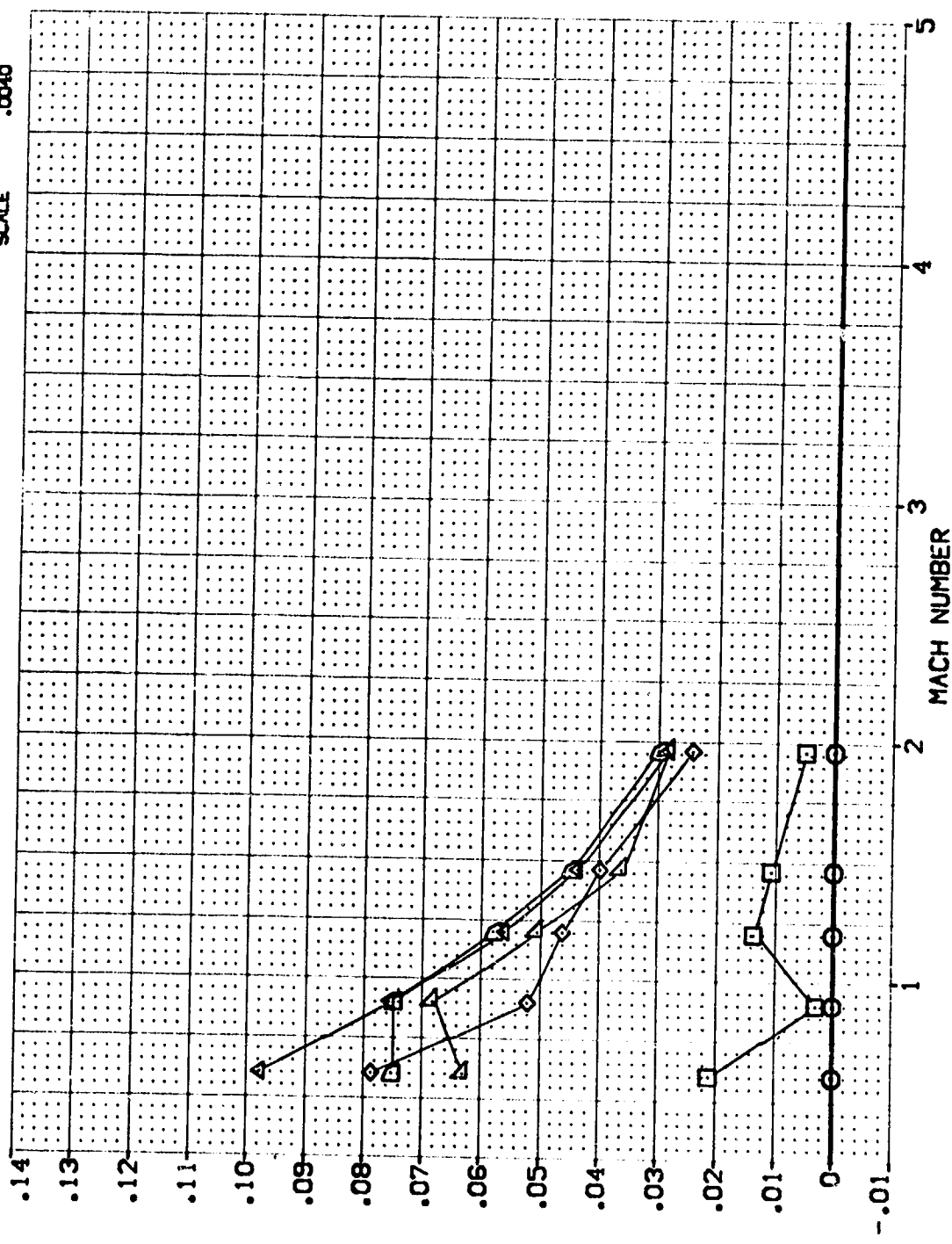
SPOBRK

25.550
 25.550
 25.550
 25.550
 25.550

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XPRP 1081.3900 IN.
 YPRP .0000 IN.
 ZPRP .0040 IN.
 SCALE

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(B)ALPHA = 5.00



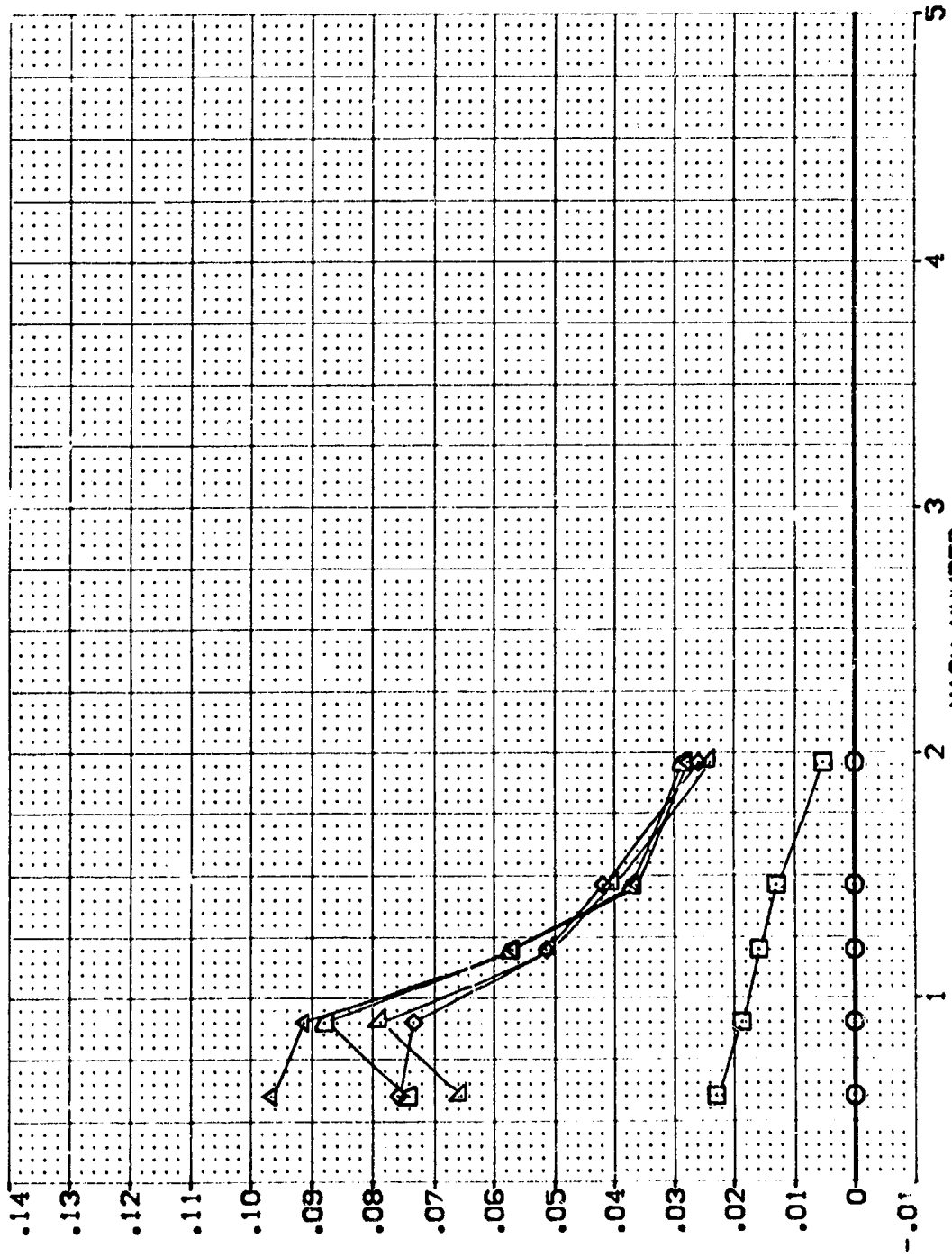
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA

DATA SET SYMBOL
 (492004)
 (492006)
 (492007)
 (492115)
 (492008)
 (492116)

CON'IGURATION DESCRIPTION
 HSC SBI(OA49) OVB 34-0 (BOFH) (VE)(VR)
 HSC SBI(OA49) OVB 34-0 (BOFH) (VE)(VR)
 HSC SBI(OA49) OVB 34-0 (BOFH) (VE)(VR)
 HSC SBI(OA49) OVB 34-0 (BOFH) (VE)(VR)
 HSC SBI(OA49) OVB 34-0 (BOFH) (VE)(VR)

ELEVTR BDFLAP S-DISK
 4.160 -11.700 25.550
 4.160 16.300 25.550
 4.160 16.300 25.550
 16.750 16.300 25.550
 16.750 22.600 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6460 IN.
 BREF 536.7000 IN.
 XMRP 1081.0000 IN.
 YMRP .0000 IN.
 ZMRP .0040 IN.
 SCALE



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(C)ALPHA = 10.00

DATA SET SYMBOL

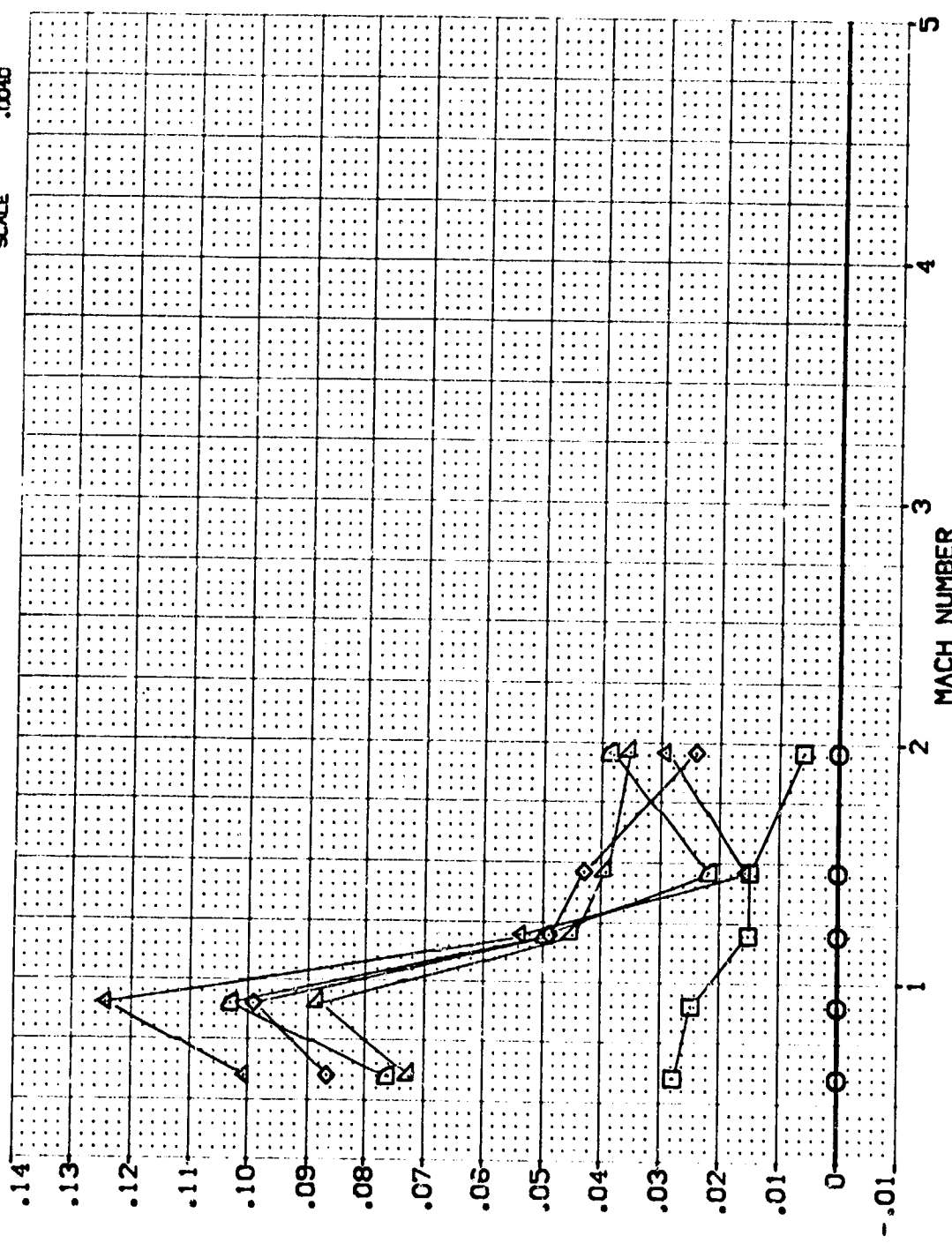
CONFIGURATION DESCRIPTION

MSFC 581(DA49) DBB 34-0 (BCFM) (VE)(VR)
 MSFC 581(DA49) DBB 34-0 (BCFM) (VE)(VR)
 MSFC 581(DA49) DBB 34-0 (BCFM) (VE)(VR)
 MSFC 581(DA49) DBB 34-0 (BCFM) (VE)(VR)
 MSFC 581(DA49) DBB 34-0 (BCFM) (VE)(VR)

ELEVTR 80FLAP SPDRK
 4.150 -11.700 25.550
 4.150 16.000 25.550
 4.150 16.300 25.550
 4.150 22.600 25.550
 16.750 16.300 25.550
 16.750 22.600 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3800 IN.
 YREF 10000 IN.
 ZREF 10000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(D) ALPHA = 15.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(452004)	H57C	581(0A49)	088	34-0	(BOTH)	(VE)(VR)
(452005)	H57C	581(0A49)	088	34-0	(BOTH)	(VE)(VR)
(452007)	H57C	581(0A49)	088	34-0	(BOTH)	(VE)(VR)
(452115)	H57C	581(0A49)	088	34-0	(BOTH)	(VE)(VR)
(452008)	H57C	581(0A49)	088	34-0	(BOTH)	(VE)(VR)
(452116)	H57C	581(0A49)	088	34-0	(BOTH)	(VE)(VR)

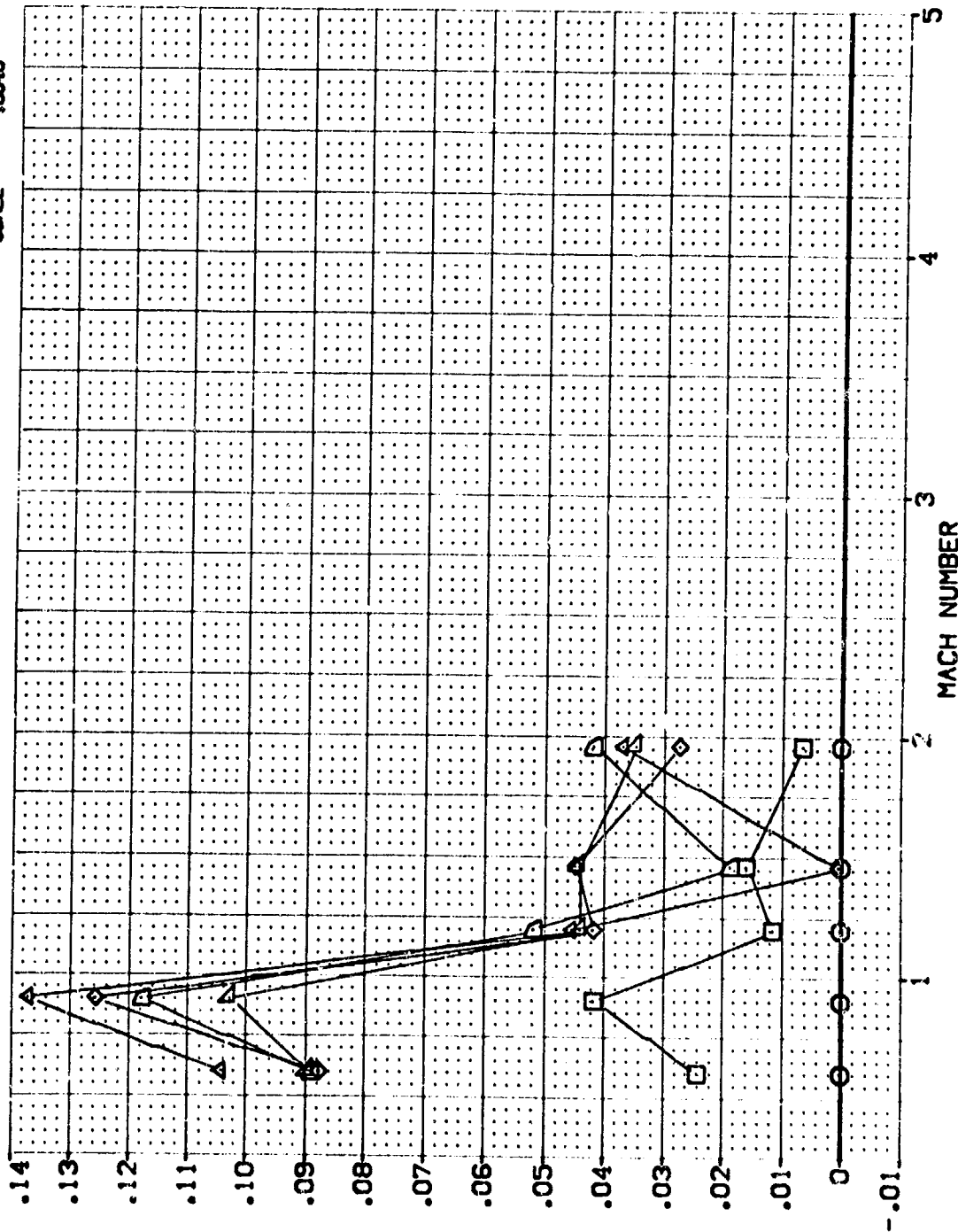
REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XPRP	1081.3500	IN.
YPRP	.0000	IN.
ZPRP	.0000	IN.
SCALE	.0040	

ELEVTR 80FLAP 870BRK

4.150	-11.700	25.550
4.150	16.000	25.550
4.150	16.000	25.550
16.750	22.500	25.550
16.750	16.300	25.550

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
(E)ALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[492004]	HSTC 581 (DA19) 578 34-0 (BDTH) (VE)(VR)
[492005]	HSTC 581 (DA19) 578 34-0 (BDTH) (VE)(VR)
[492006]	HSTC 581 (DA19) 578 34-0 (BDTH) (VE)(VR)
[492007]	HSTC 581 (DA19) 578 34-0 (BDTH) (VE)(VR)
[492115]	HSTC 581 (DA19) 578 34-0 (BDTH) (VE)(VR)
[492008]	HSTC 581 (DA19) 578 34-0 (BDTH) (VE)(VR)
[492116]	HSTC 581 (DA19) 578 34-0 (BDTH) (VE)(VR)

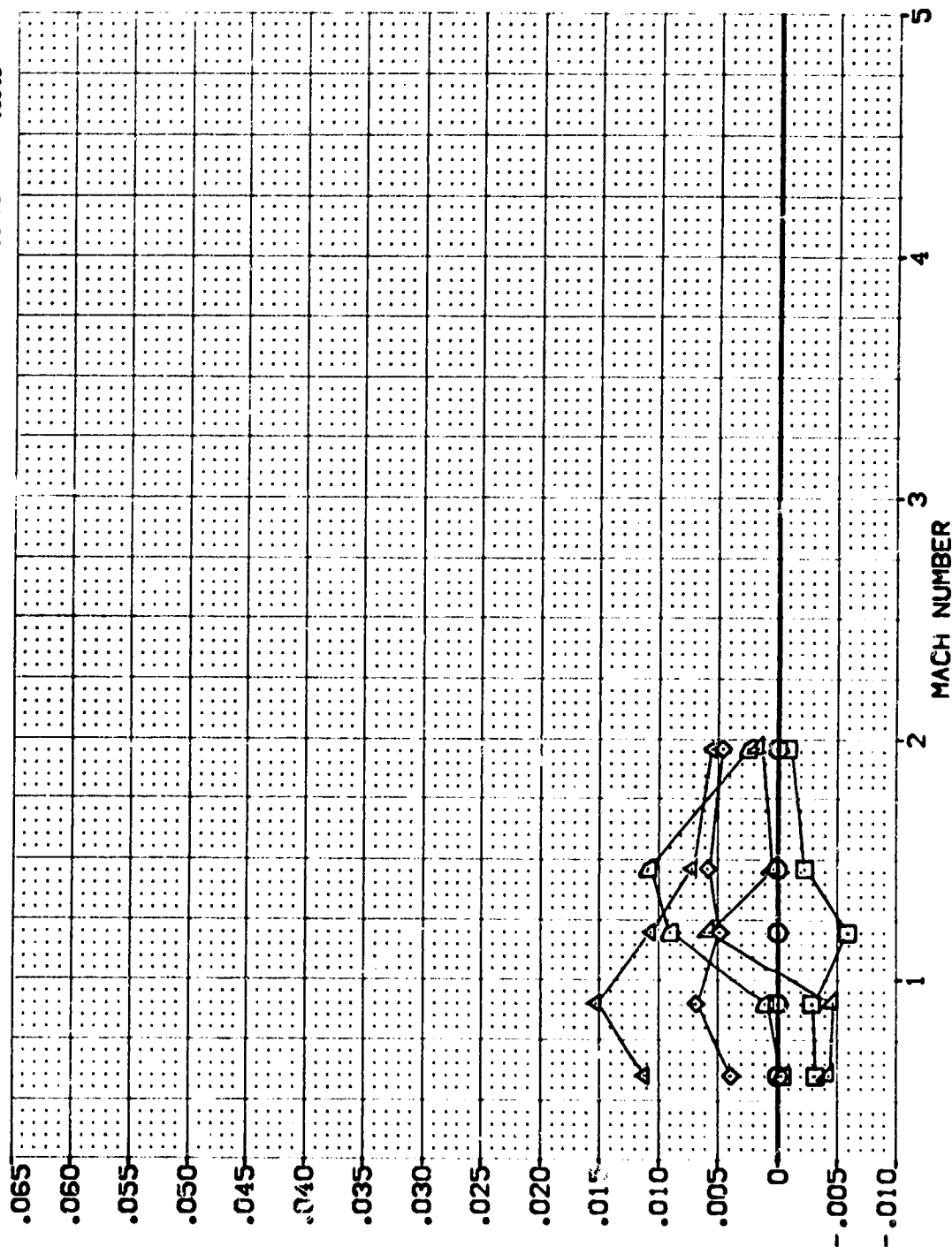
ELEVTR BDFLAP 9708PK

4.160	-11.700	23.550
4.160	-11.700	23.550
4.160	16.300	23.550
4.160	22.600	23.550
16.750	16.300	23.550
16.750	22.600	23.550

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	826.7000	IN.
WREF	1081.3500	IN.
THRP	.0000	IN.
ZHRP	.0000	IN.
SCALE	.0040	

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

[A] ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

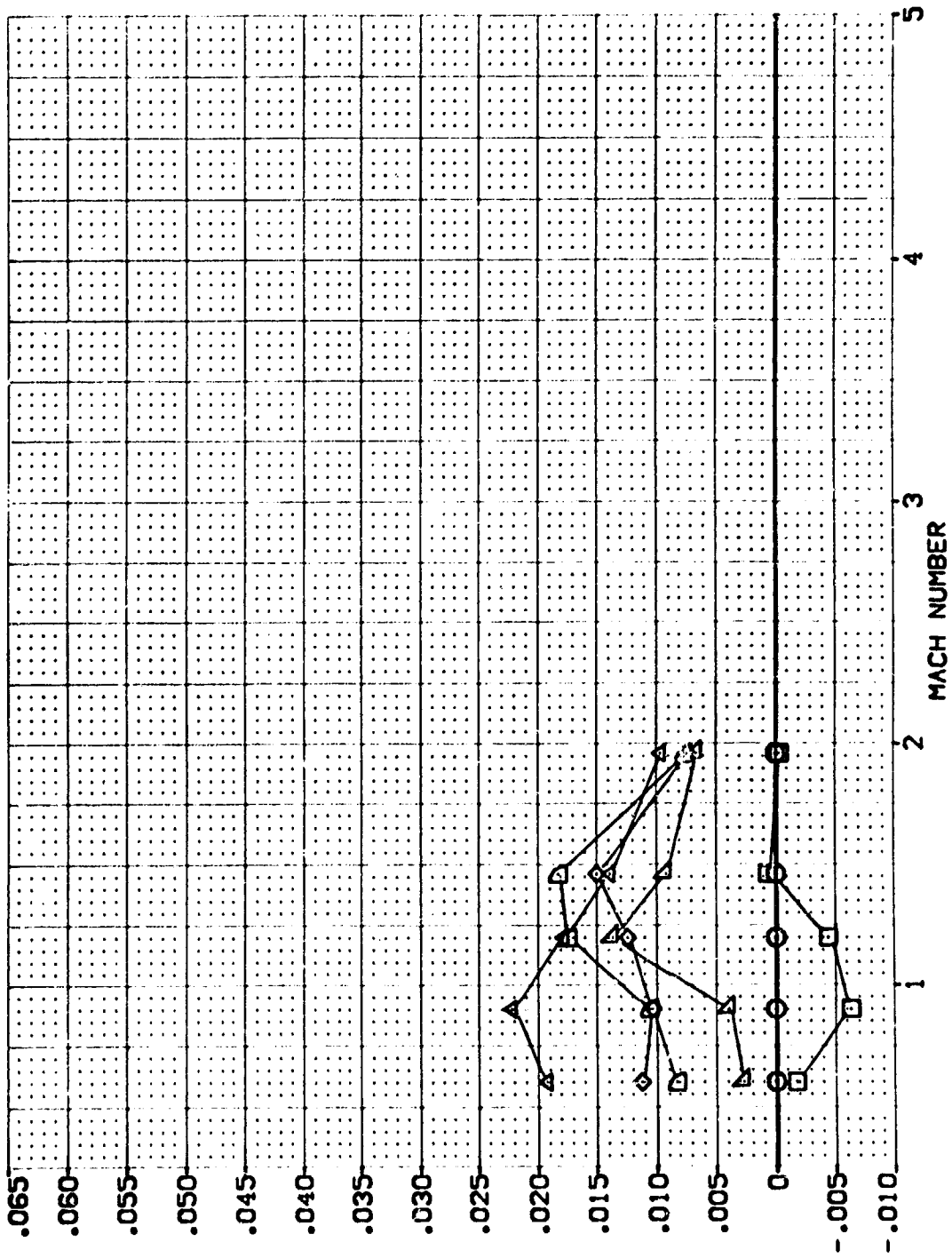
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
{492004}	MSFC S81(0A49) DB 34-0 (BDFH) (VE)(VR)
{492005}	MSFC S81(0A49) DB 34-0 (BDFH) (VE)(VR)
{492007}	MSFC S81(0A49) DB 34-0 (BDFH) (VE)(VR)
{492115}	MSFC S81(0A49) DB 34-0 (BDFH) (VE)(VR)
{492008}	MSFC S81(0A49) DB 34-0 (BDFH) (VE)(VR)
{492116}	MSFC S81(0A49) DB 34-0 (BDFH) (VE)(VR)

REFERENCE INFORMATION

REFERENCE INFORMATION	UNIT
SREF	2741.8000
LREF	481.6480
BREF	536.7000
XPRP	1081.3500
YPRP	.0000
ZPRP	.0000
SCALE	.0040

ELEVTR BDFLAP SPDBK

ELEVTR	BDFLAP	SPDBK
4.160	-11.700	23.550
4.160	.000	23.550
4.160	16.300	23.550
4.160	22.600	23.550
16.750	16.300	23.550
16.750	22.600	23.550



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(B)ALPHA = 5.00

CONFIGURATION	DESCRIPTION
M5TC 591(0A-9)	08B 34-0 (BDH) (VE)(VR)
M5TC 591(0A-9)	08B 34-0 (BDH) (VE)(VR)
M5TC 591(0A-9)	08B 34-0 (BDH) (VE)(VR)
M5TC 591(0A-9)	08B 34-0 (BDH) (VE)(VR)
M5TC 591(0A-9)	08B 34-0 (BDH) (VE)(VR)

ELEVTR	BOFLAP	SPDRBK
4.180	-11.700	16.550
4.180	16.300	16.550
4.180	16.300	16.550
4.180	22.500	16.550
16.750	16.300	16.550
16.750	22.500	16.550

REFERENCE INFORMATION		SO.	FT
		IN.	IN.
SREF	2741	8000	
LREF	481	6480	
BREF	936	7000	
XPRP	1081	3900	
YPRP		5000	
ZPRP		5000	
SCALE		10010	

α	$\alpha = 0.5$ (circles)	$\alpha = 1.0$ (squares)	$\alpha = 1.5$ (triangles)	$\alpha = 2.0$ (diamonds)
0.0	0.000	0.000	0.000	0.000
0.5	0.000	0.000	0.000	0.000
1.0	0.000	0.000	0.000	0.000
1.5	0.000	0.000	0.000	0.000
2.0	0.000	0.000	0.000	0.000
2.5	0.000	0.000	0.000	0.000
3.0	0.000	0.000	0.000	0.000
3.5	0.000	0.000	0.000	0.000
4.0	0.000	0.000	0.000	0.000
4.5	0.000	0.000	0.000	0.000
5.0	0.000	0.000	0.000	0.000

BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

CC)ALPHA = 10.00



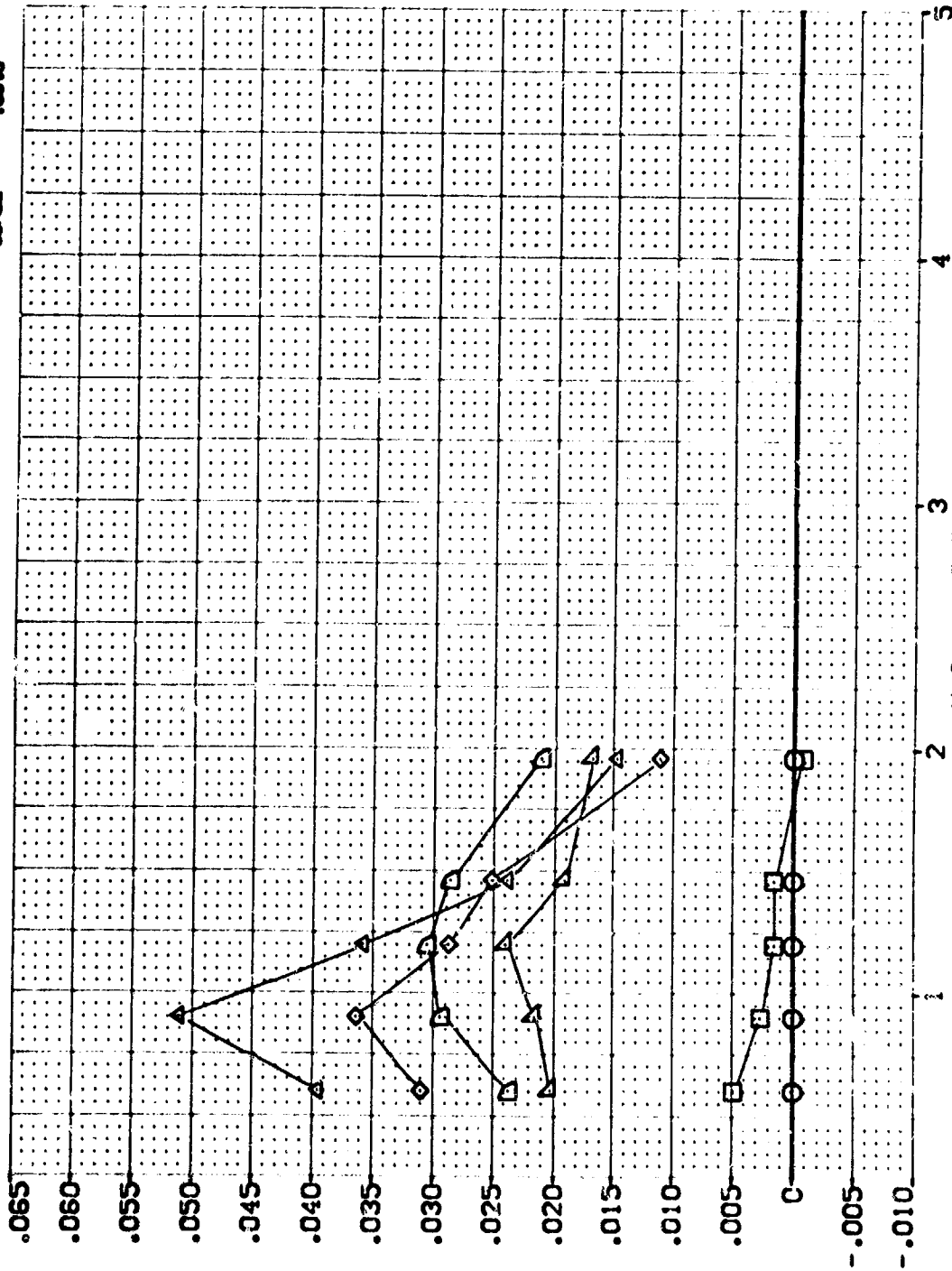
DATA SET SYMBOL

CONFIGURATION DESCRIPTION

ELEVTR BODYFLAP SPUBK

REFERENCE INFORMATION

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

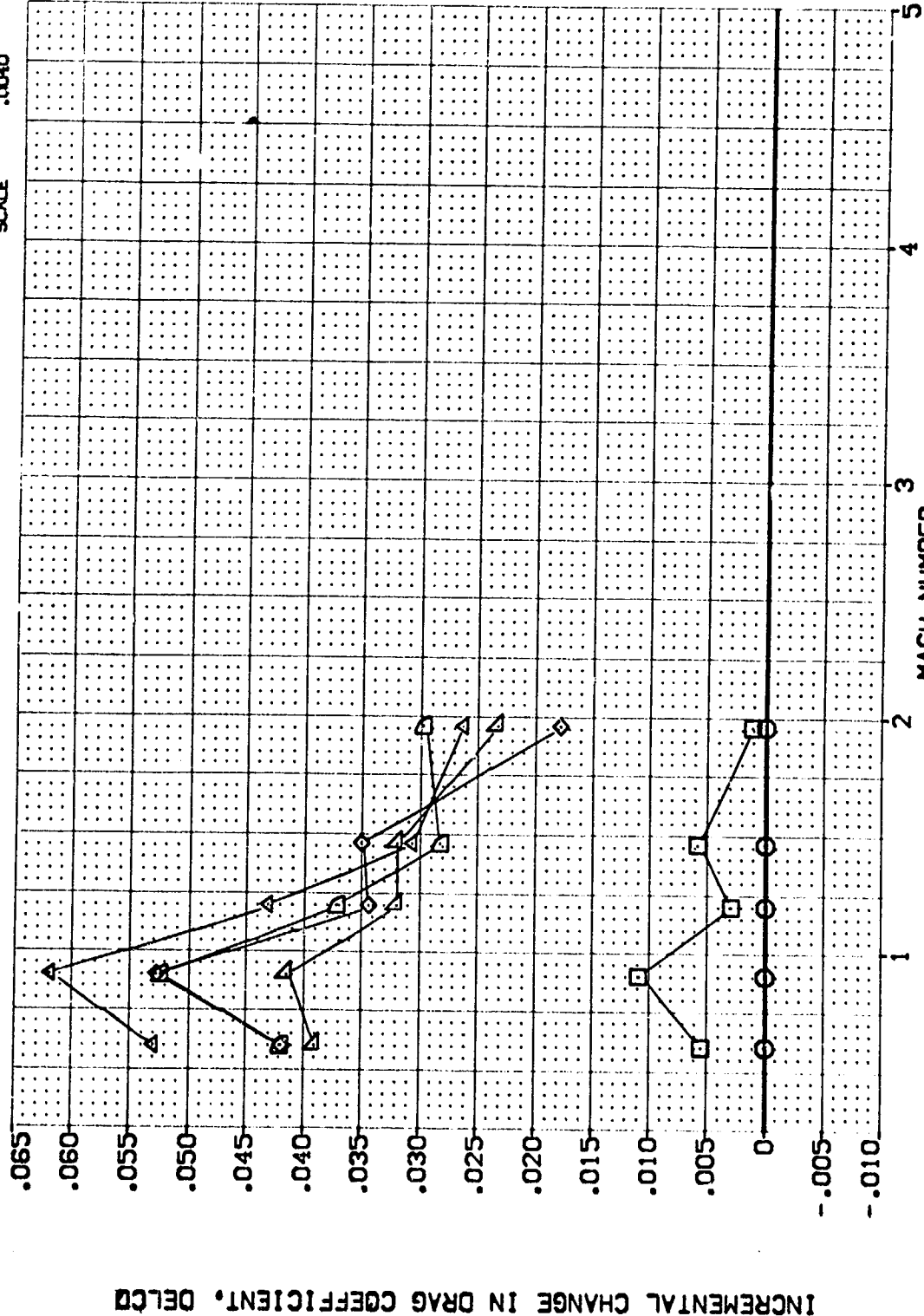
(α) ALPHA = 15.00

DATA SET SYMBOL

CONFIGURATION DESCRIPTION

ELEVTR BOFLAP SPOBRK

REFERENCE INFORMATION



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(E) ALPHA = 20.00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
[492004]	MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
[492006]	MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
[492007]	MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
[492115]	MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
[492008]	MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)
[492116]	MSFC 581(0A49) ORB 34-0 (BOFM) (VE)(VR)

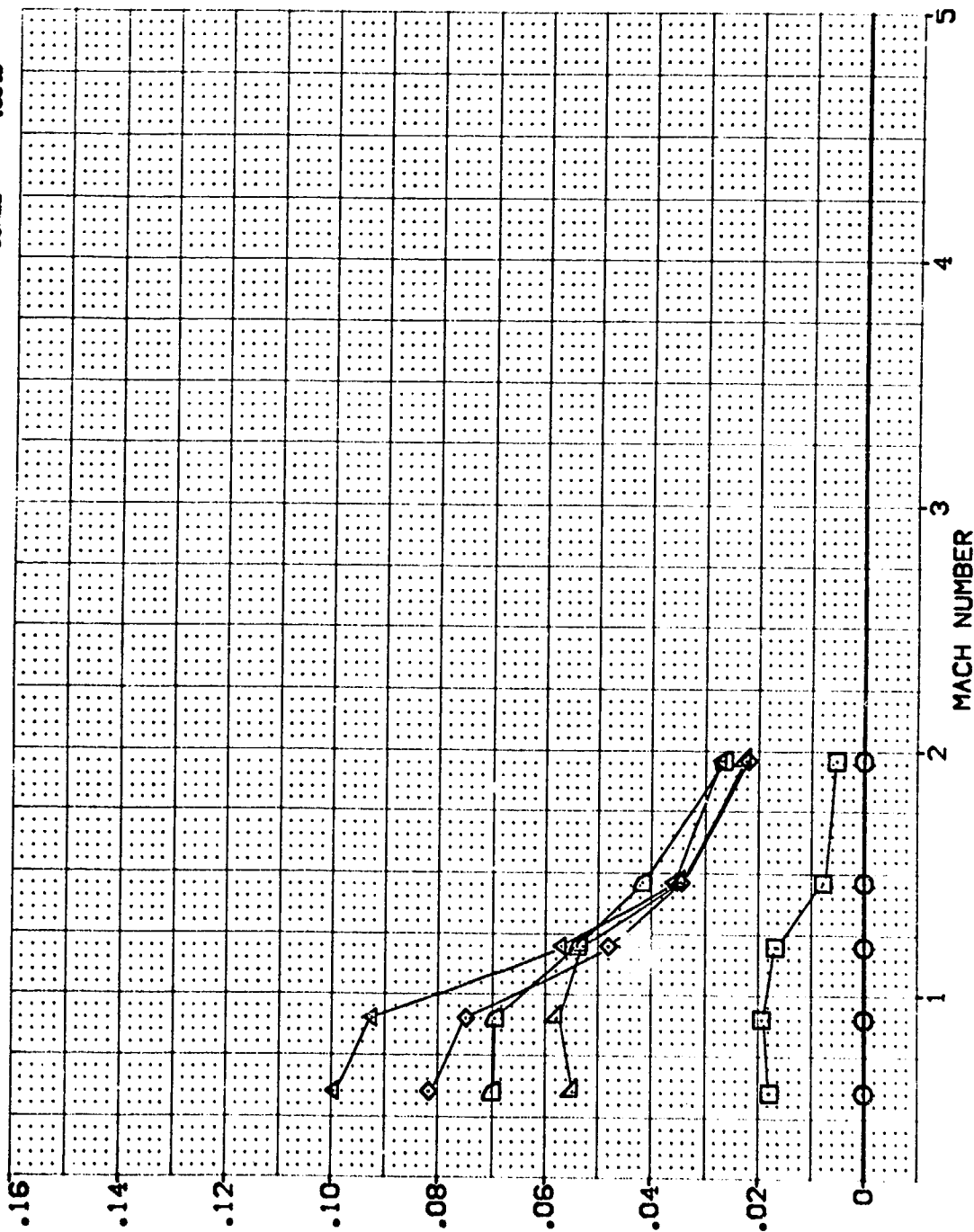
REFERENCE INFORMATION

REFERENCE	IN.
SREF	2741.8000
LREF	481.6480
BREF	936.7000
XPRP	1081.2500
YPRP	.0000
ZPRP	.0000
SCALE	.0040

ELEVTR 80FLAP SPDBRK

ELEVTR	80FLAP	SPDBRK
4.160	-11.700	25.550
4.160	16.000	25.550
4.160	16.300	25.550
4.160	22.600	25.550
16.750	16.300	25.550
16.750	22.600	25.550

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(α)ALPHA = .00

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

DATA SET SYMBOL CONFIGURATION DESCRIPTION

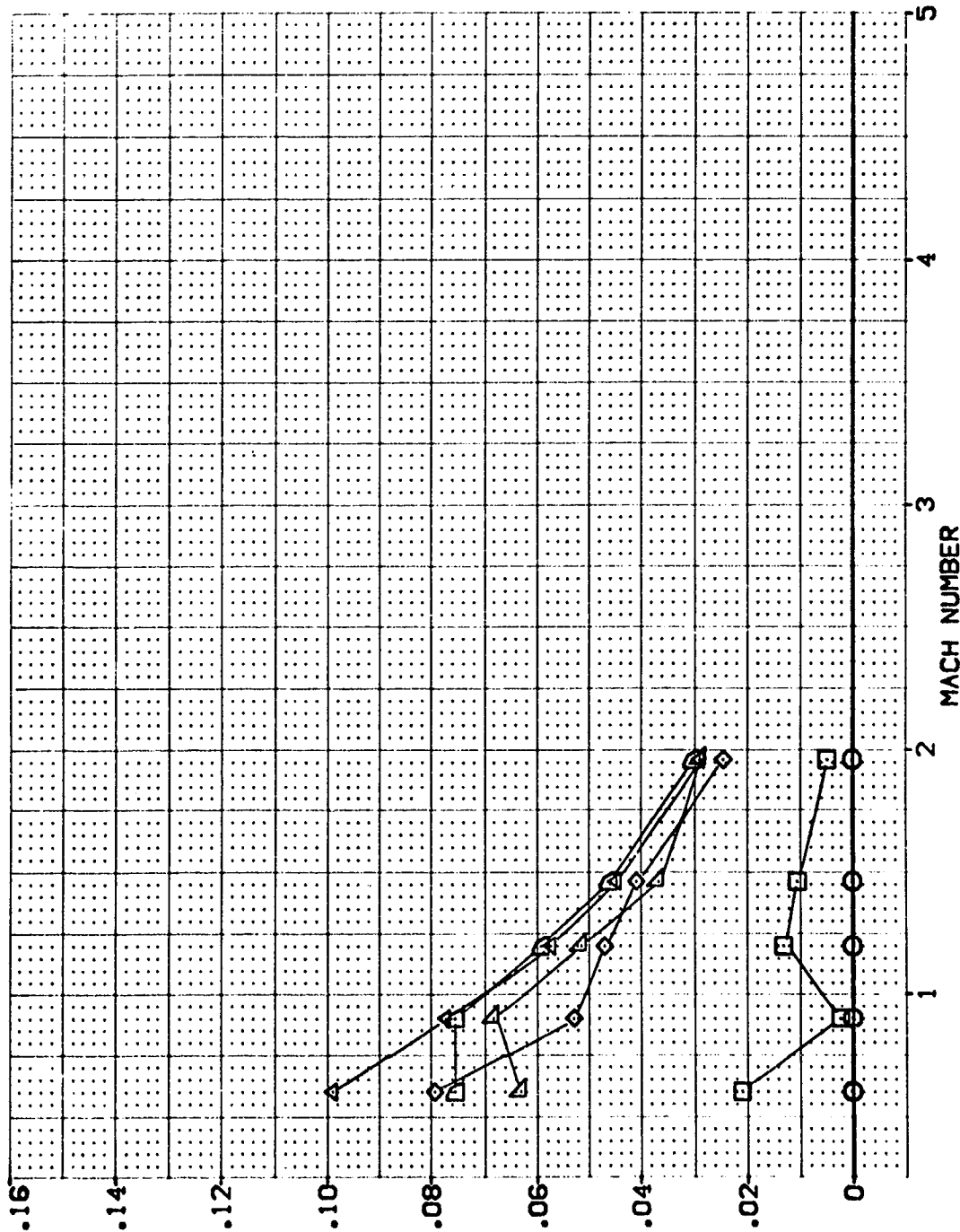
(492004)	HSFC 581(DA49) CRB 34-0 (BDTH) (VE)(VR)
(492006)	HSFC 581(DA49) CRB 34-0 (BDTH) (VE)(VR)
(492007)	HSFC 581(DA49) CRB 34-0 (BDTH) (VE)(VR)
(492115)	HSFC 581(DA49) CRB 34-0 (BDTH) (VE)(VR)
(492008)	HSFC 581(DA49) CRB 34-0 (BDTH) (VE)(VR)
(492116)	HSFC 581(DA49) CRB 34-0 (BDTH) (VE)(VR)

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XPRP	1081.3800	IN.
YPRP	.0000	IN.
ZPRP	.0000	IN.
SCALE	.0040	

ELEVTR 80FLAP SP08RK

4.160	-11.700	25.550
4.160	0.000	25.550
4.160	16.300	25.550
4.160	22.600	25.550
16.790	16.300	25.550
16.790	22.600	25.550



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(B)ALPHA = 5.00



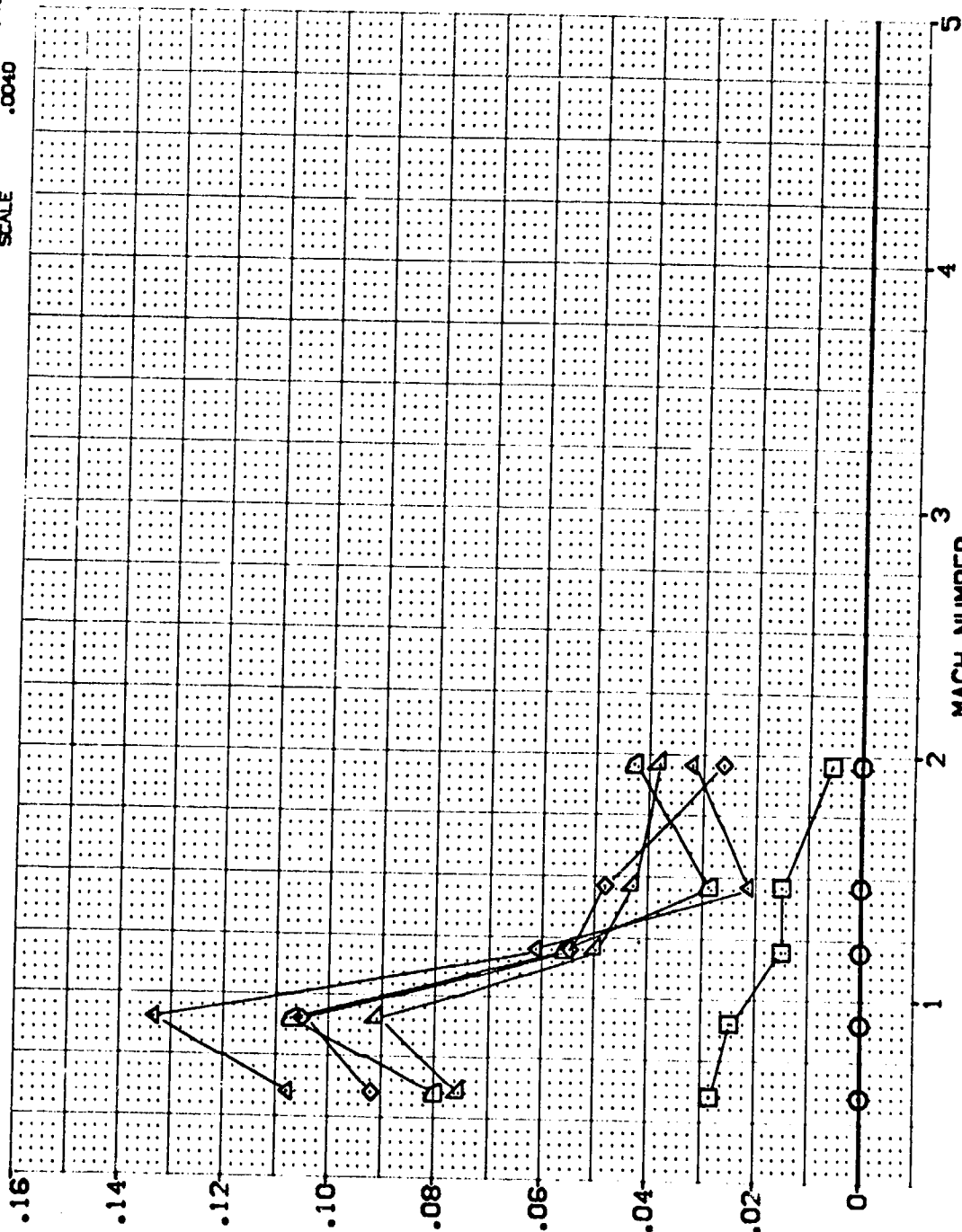


INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN







DATA SET SYMBOL	CONFIGURATION DESCRIPTION
[492004]	HSFC 581(BA49) CRB 34-0 (BDCH) (VE)(VR)
[492006]	HSFC 581(BA49) CRB 34-0 (BDCH) (VE)(VR)
[492007]	HSFC 581(BA49) CRB 34-0 (BDCH) (VE)(VR)
[492115]	HSFC 581(BA49) CRB 34-0 (BDCH) (VE)(VR)
[492008]	HSFC 581(BA49) CRB 34-0 (BDCH) (VE)(VR)
[492116]	HSFC 581(BA49) CRB 34-0 (BDCH) (VE)(VR)

ELEVTR	BDFLAP	SPDBRK
4.160	-11.700	25.550
4.160	0.000	25.550
4.160	16.000	25.550
16.750	22.500	25.550
16.750	22.500	25.550

REFERENCE INFORMATION	SO: FT
SREF 2741.8000	IN.
LREF 481.6480	IN.
BREF 936.7000	IN.
XMRP 1081.3500	IN.
YMRP .0000	IN.
ZMRP .0040	IN.
SCALE	



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
(O) ALPHA = 15.00

DATA SET SYMBOL:      

CONFIGURATION DESCRIPTION

CONFIGURATION	DESCRIPTION
152004	SRB 34-0 (BDTH) (VE)(VR)
152005	SRB 34-0 (BDTH) (VE)(VR)
152007	SRB 34-0 (BDTH) (VE)(VR)
152115	SRB 34-0 (BDTH) (VE)(VR)
152008	SRB 34-0 (BDTH) (VE)(VR)
152116	SRB 34-0 (BDTH) (VE)(VR)

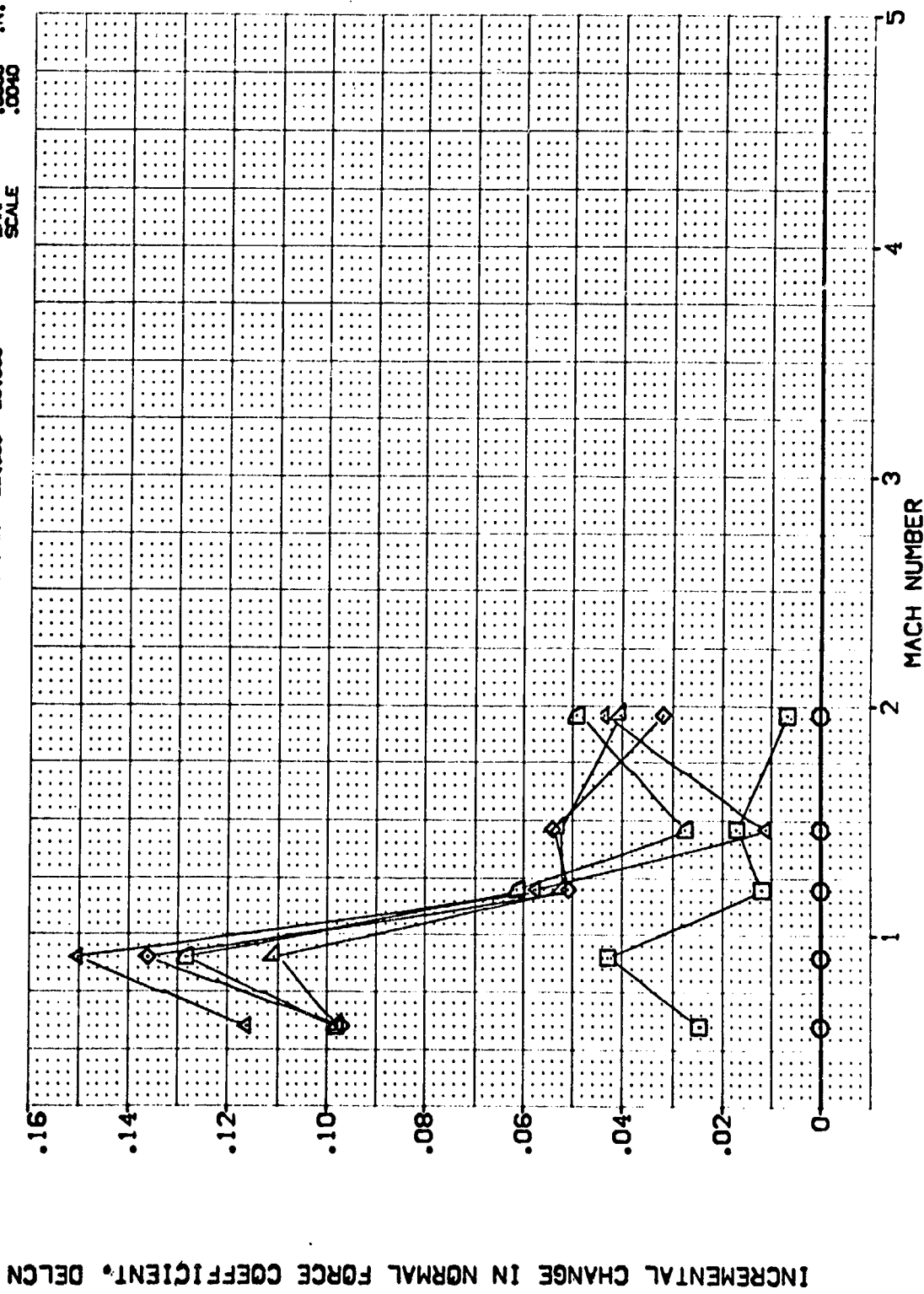
REFERENCE INFORMATION

SRB	SRB	SRB	SRB
2741.8000	2741.8000	2741.8000	2741.8000
481.6480	481.6480	481.6480	481.6480
936.7000	936.7000	936.7000	936.7000
1081.3900	1081.3900	1081.3900	1081.3900
.0000	.0000	.0000	.0000
.0000	.0000	.0000	.0000
.0040	.0040	.0040	.0040

ELEVTR BDFLAP SPDRBK

ELEVTR	BDFLAP	SPDRBK
4.160	-11.700	25.550
4.160	16.300	25.550
4.160	16.300	25.550
16.750	16.300	25.550
16.750	22.600	25.550

SCALE



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
 $C_{E\alpha} = 20.00$

DATA SET SYMBOL CONFIGURATION DESCRIPTION

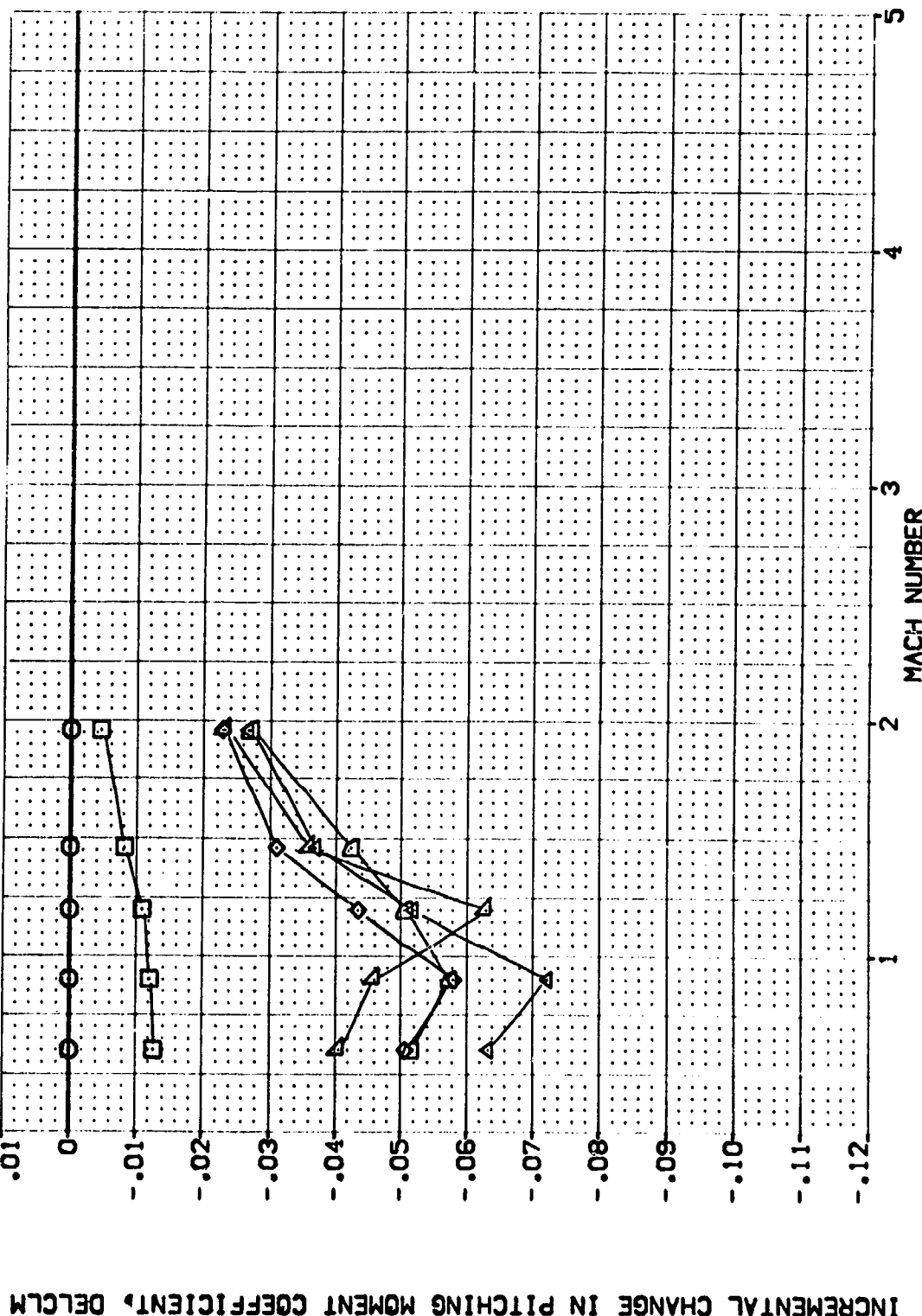
[492004]	MSFC	S81(CA49)	DB 34-0	(BOFM)	(VE)(VR)
[492005]	MSFC	S81(CA49)	DB 34-0	(BOFM)	(VE)(VR)
[492007]	MSFC	S81(CA49)	DB 34-0	(BOFM)	(VE)(VR)
[492115]	MSFC	S81(CA49)	DB 34-0	(BOFM)	(VE)(VR)
[492008]	MSFC	S81(CA49)	DB 34-0	(BOFM)	(VE)(VR)
[492116]	MSFC	S81(CA49)	DB 34-0	(BOFM)	(VE)(VR)

ELEVTR BOFLAP SPDBRK

4.160	-11.700	25.550
4.160	0.000	25.550
4.160	16.300	25.550
4.160	22.600	25.550
16.750	16.300	25.550
16.750	22.600	25.550

REFERENCE INFORMATION

SREF	2741.8000	50. FT
UREF	481.6480	IN.
BREF	536.7000	IN.
XPRP	1081.3500	IN.
YPRP	.0000	IN.
ZPRP	.0000	IN.
SCALE	.0040	



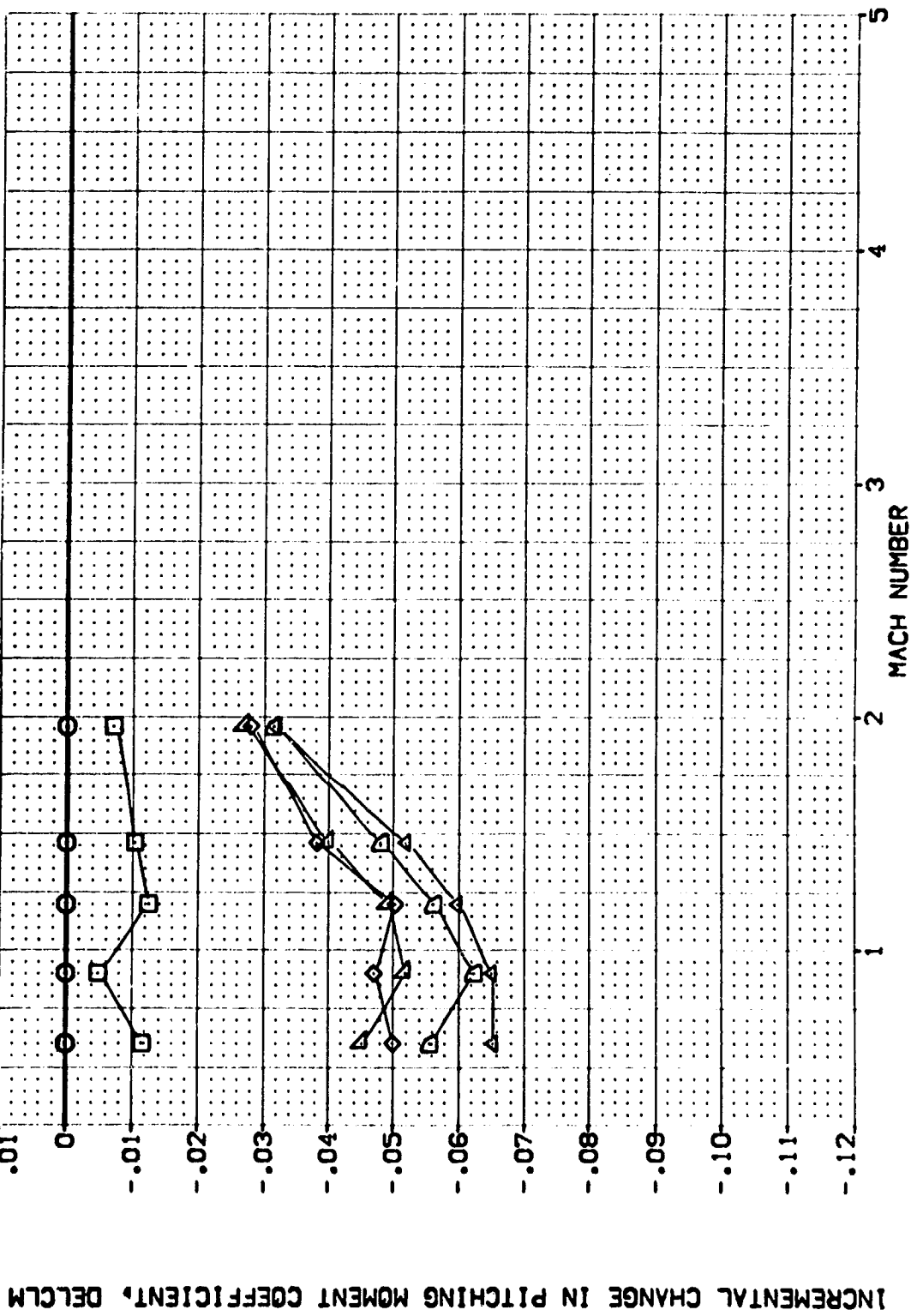
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(A) ALPHA = .00

DATA SET SINGL CONFIGURATION DESCRIPTION

DATA SET	SINGL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPDORR	REFERENCE INFORMATION
(492004)	□	MSC 531(0A49) 0B8 3A-0 (BDFM) (VE)(VR)	4.180	-11.700	25.550	SREF 2741.8000 SQ. FT
(492005)	○	MSC 531(0A49) 0B8 3A-0 (BDFM) (VE)(VR)	4.180	16.000	25.550	LREF 481.6480 IN.
(492007)	△	MSC 531(0A49) 0B8 3A-0 (BDFM) (VE)(VR)	4.180	16.300	25.550	BREF 536.7000 IN.
(492115)	◇	MSC 531(0A49) 0B8 3A-0 (BDFM) (VE)(VR)	16.790	16.300	25.550	XTRP 1081.3900 IN.
(492008)	△	MSC 531(0A49) 0B8 3A-0 (BDFM) (VE)(VR)	16.790	22.600	25.550	YTRP .0000 IN.
(492116)	◇	MSC 531(0A49) 0B8 3A-0 (BDFM) (VE)(VR)	16.790	22.600	25.550	ZTRP .0000 IN.

SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(B)ALPHA = 5.00

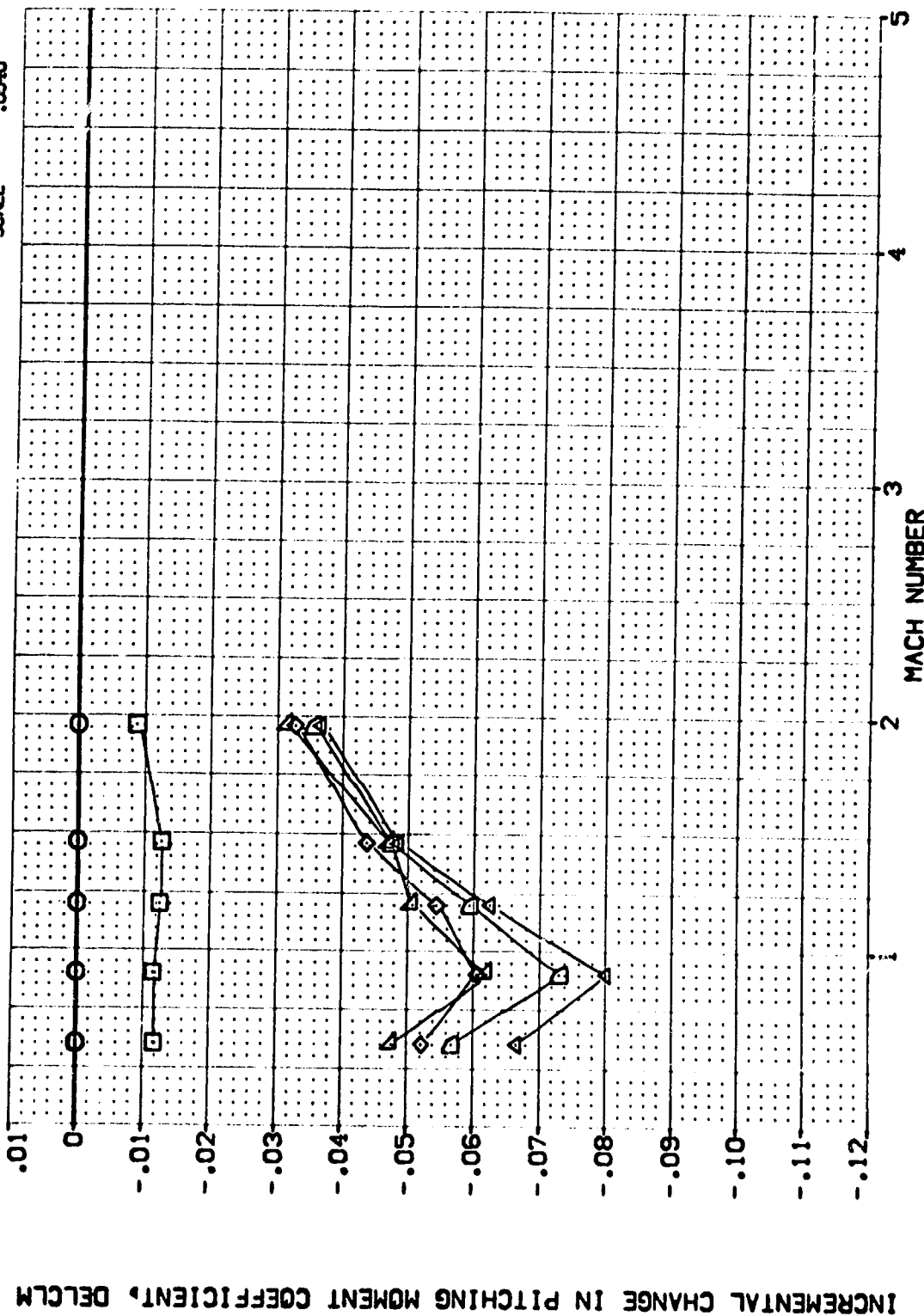
DATA SET SYMBOL

CONFIGURATION DESCRIPTION

MSFC S81(OA49) 083 34-0 (BOFM) (VE)(VR)
 MSFC S81(OA49) 083 34-0 (BOFM) (VE)(VR)
 MSFC S81(OA49) 083 34-0 (BOFM) (VE)(VR)
 MSFC S81(OA49) 083 34-0 (BOFM) (VE)(VR)
 MSFC S81(OA49) 083 34-0 (BOFM) (VE)(VR)

ELEVTR BOFLAP SPOBRK
 4.160 -11.700 25.550
 4.160 16.300 22.550
 4.160 22.600 22.550
 16.750 16.300 22.550
 16.750 22.600 22.550

REFERENCE INFORMATION
 SPREF 2741.8000 SQ. FT
 LPREF 481.6480 IN.
 BRPF 936.7000 IN.
 XTRP 1081.3500 IN.
 YTRP .0000 IN.
 ZTRP .0000 IN.
 SCALE .0040

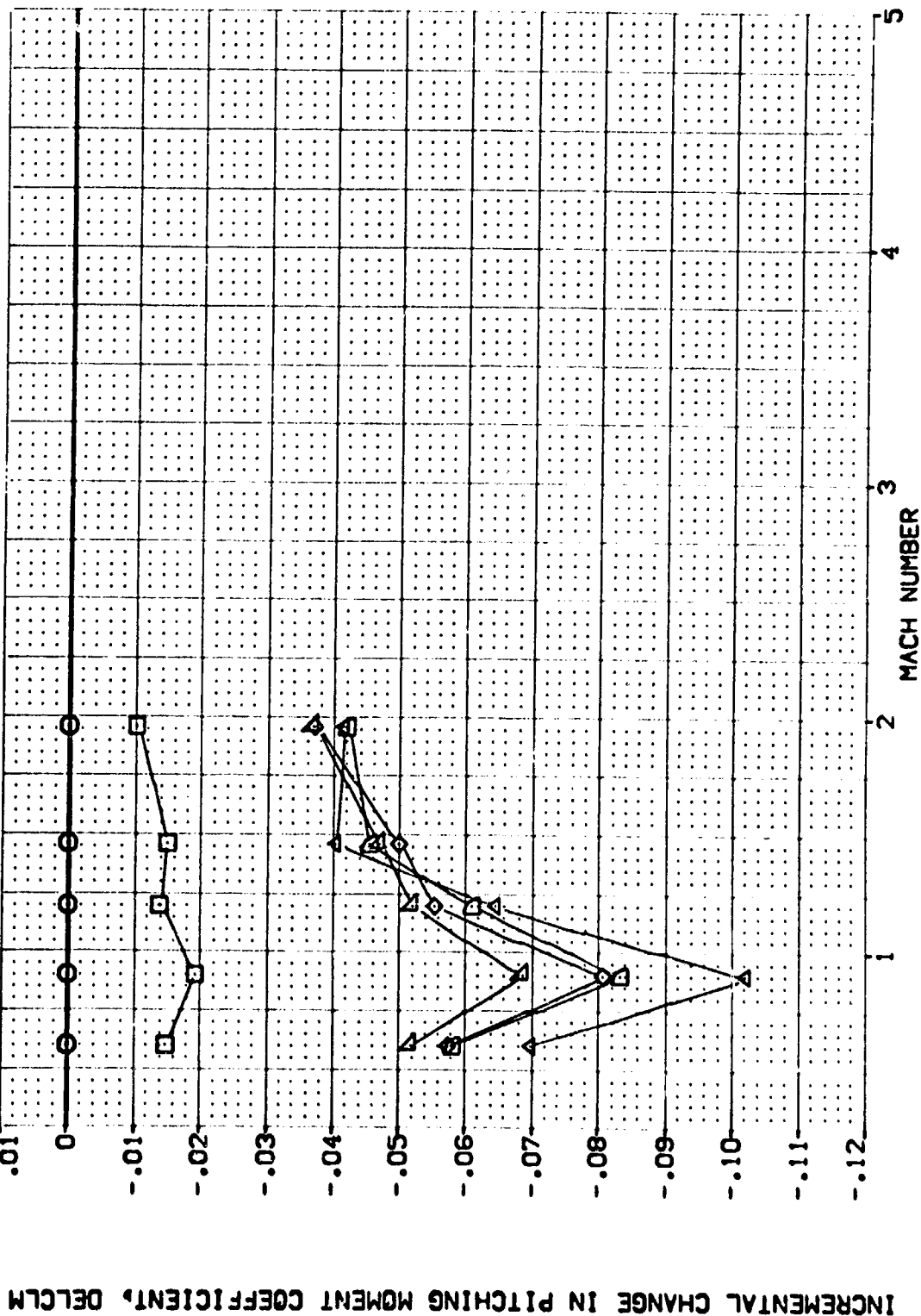


BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
 (C) ALPHA = 10.00

DATA SET SNOB. CONFIGURATION DESCRIPTION
 452004 { HSTC 591 (0A19) 098 34-0 (BDTH) (VE)(VR)
 452005 { HSTC 591 (0A19) 098 34-0 (BDTH) (VE)(VR)
 452006 { HSTC 591 (0A19) 098 34-0 (BDTH) (VE)(VR)
 452007 { HSTC 591 (0A19) 098 34-0 (BDTH) (VE)(VR)
 452008 { HSTC 591 (0A19) 098 34-0 (BDTH) (VE)(VR)
 452009 { HSTC 591 (0A19) 098 34-0 (BDTH) (VE)(VR)

ELEVTR BDFLAP SPOBRK
 4.160 -11.700 25.550
 4.160 16.300 25.550
 4.160 16.300 25.550
 16.750 16.300 25.550
 16.750 16.300 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 SREF 536.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

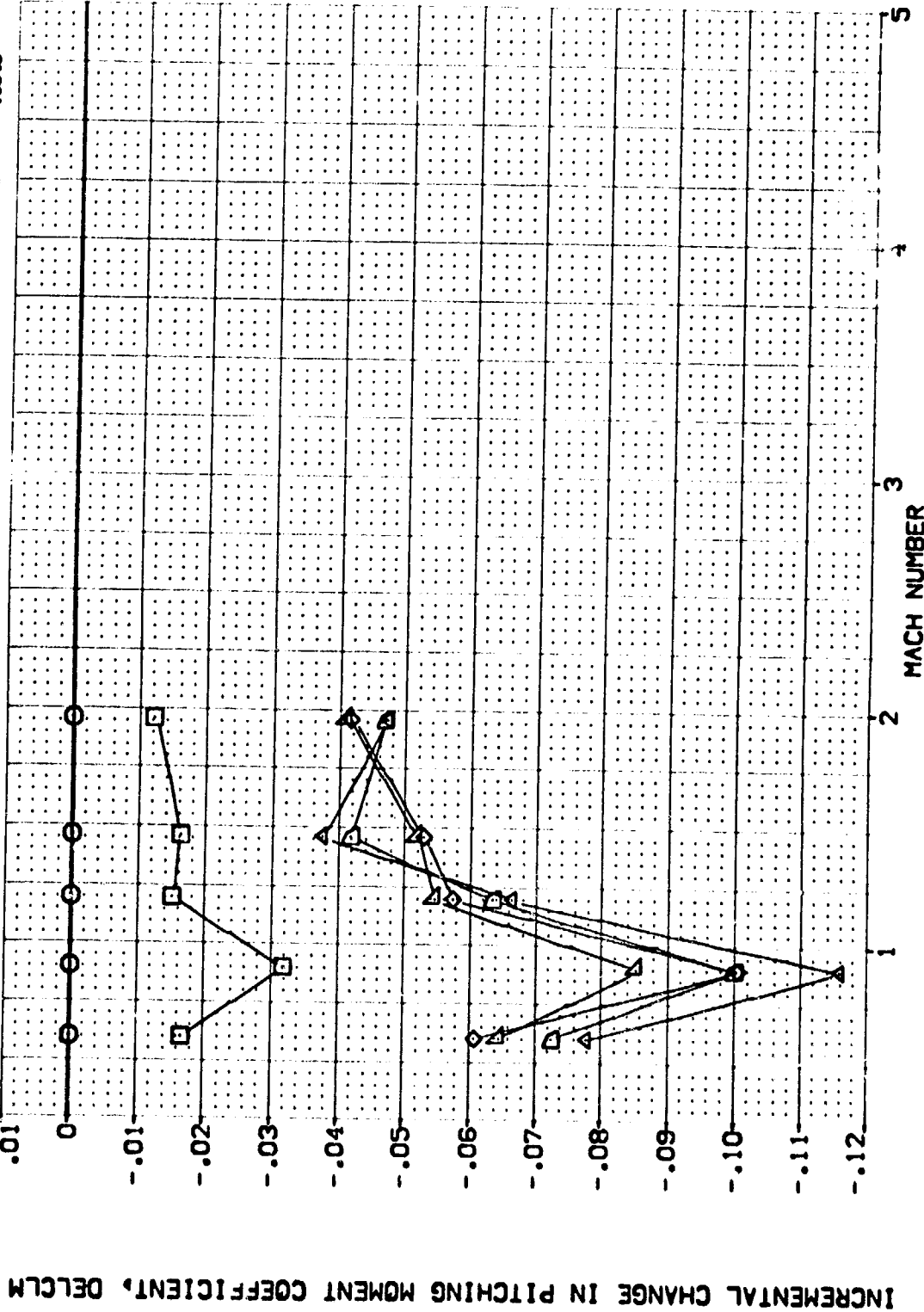
(C) ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 1 2 3 4
 1522004 1522005 1522006 1522007 1522115 1522008 1522116

1522 581(0A49) 0R8 3A-0 (BOTH) (VEI)(VR)
 1522 531(0A49) 0R8 3A-0 (BOTH) (VEI)(VR)
 1522 531(0A49) 0R8 3A-0 (BOTH) (VEI)(VR)
 1522 581(0A49) 0R8 3A-0 (BOTH) (VEI)(VR)
 1522 581(0A49) 0R8 3A-0 (BOTH) (VEI)(VR)
 1522 581(0A49) 0R8 3A-0 (BOTH) (VEI)(VR)

ELEVTR 4.160 4.160 4.160 4.160 16.730 16.730
 BODYLAP -11.700 16.300 22.600 22.600 22.600 22.600
 SPDBRK 23.550 23.550 23.550 23.550 23.550 23.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(E)ALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

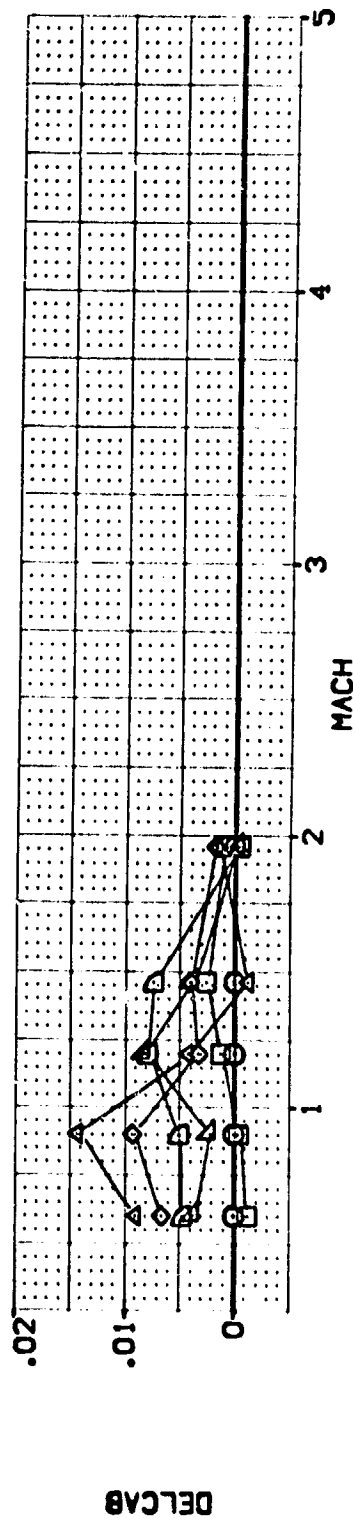
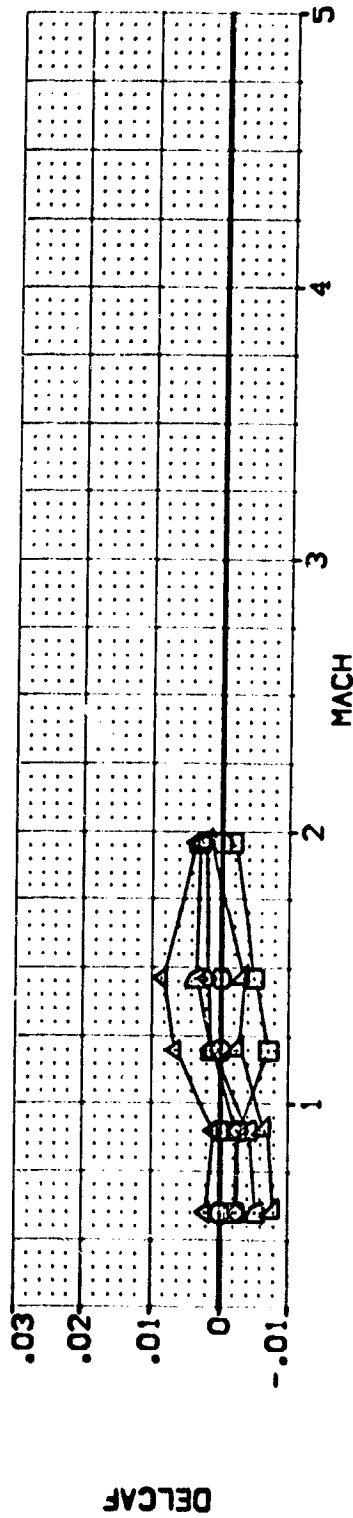
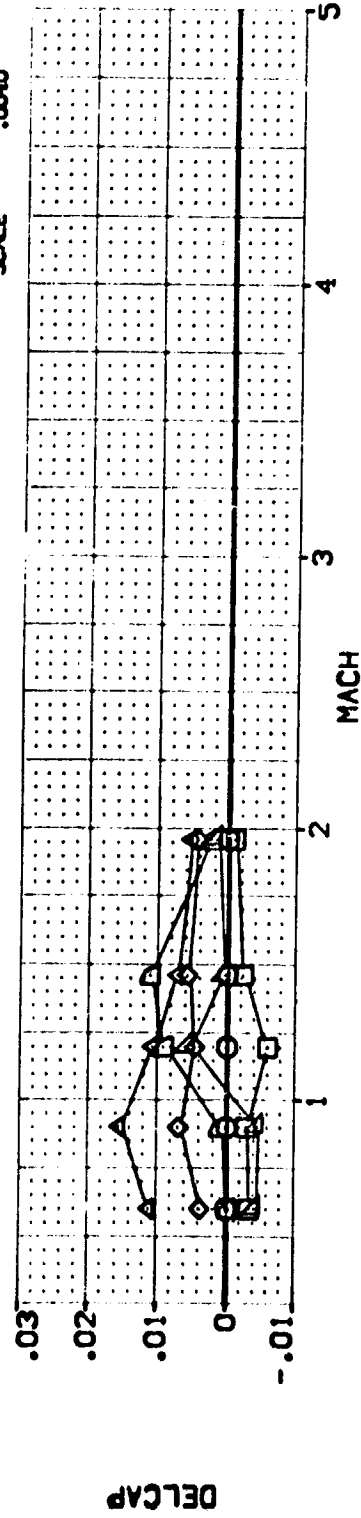
[492004]	REFC	501(0A49)	0B8	3A-0	(BOFH)	(VE)(VR)
[492005]	REFC	501(0A49)	0B8	3A-0	(BOFH)	(VE)(VR)
[492007]	REFC	501(0A49)	0B8	3A-0	(BOFH)	(VE)(VR)
[492115]	REFC	501(0A49)	0B8	3A-0	(BOFH)	(VE)(VR)
[492008]	REFC	501(0A49)	0B8	3A-0	(BOFH)	(VE)(VR)
[492116]	REFC	501(0A49)	0B8	3A-0	(BOFH)	(VE)(VR)

ELEVTR 80FLAP 900BWK

4.160	-11.700	25.500
4.160	0.000	25.500
4.160	16.300	25.500
4.160	22.600	25.500
16.750	16.300	25.500
16.750	22.600	25.500

REFERENCE INFORMATION

REF	2741.8000	50. FT
UREF	491.6480	IN.
BREF	536.7000	IN.
XREF	1081.3500	IN.
YREF	0.0000	IN.
ZREF	0.0000	IN.
SCALE	.0040	



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

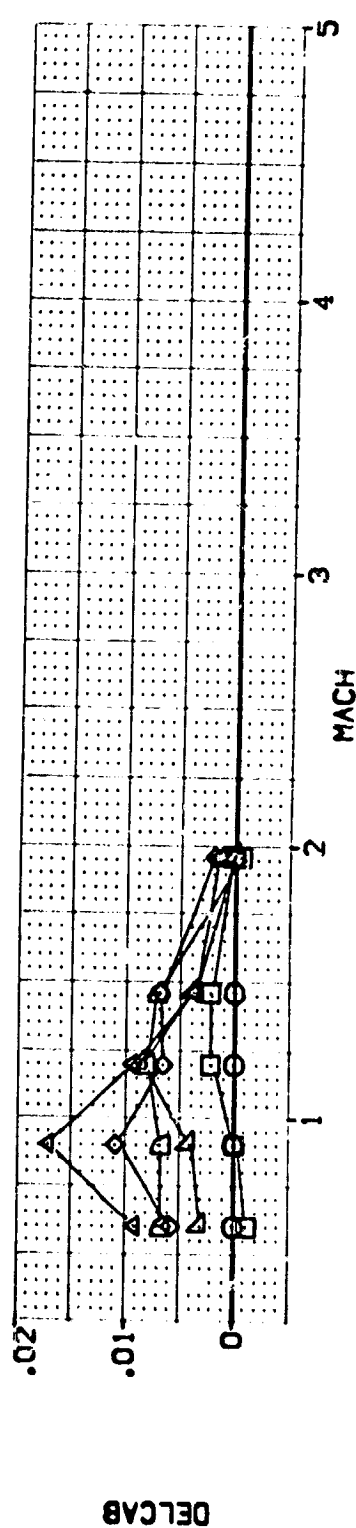
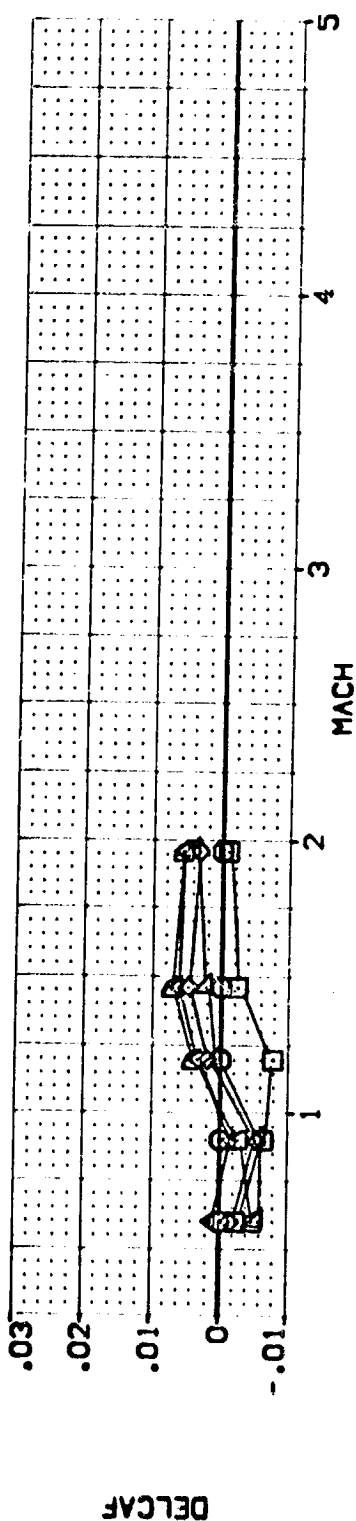
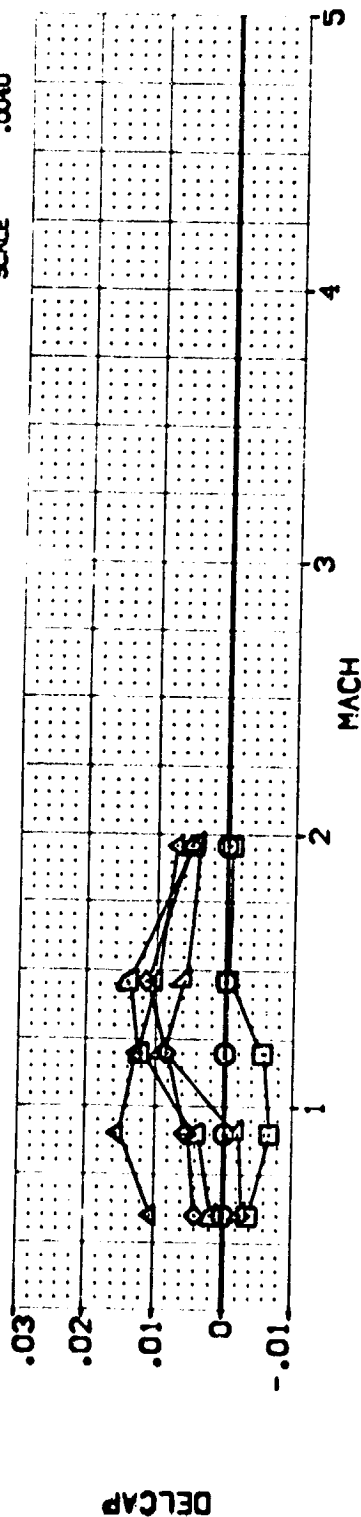
(ALPHA) = .00

DATA SET	SET SIZE	CONFIGURATION	DESCRIPTION
1	10	10	10
2	20	20	20
3	30	30	30
4	40	40	40
5	50	50	50
6	60	60	60
7	70	70	70
8	80	80	80
9	90	90	90
10	100	100	100

42004	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
42004	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
42006	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
42007	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
42015	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99

ELEVTR	BOFLAP	SPDRBK
4.160	-11.700	25.550
4.160	16.000	25.550
4.160	16.300	25.550
4.160	22.600	25.550
16.750	16.300	25.550
16.750	22.600	25.550

	REFERENCE INFORMATION	SQ.	FT
EEF	2741	.0000	
EEF	481	.6480	IN.
EEF	936	.7000	IN.
PP	1081	.3500	IN.
PP	.	.0000	IN.
PP	.	.0000	IN.
ALE	.	.0040	



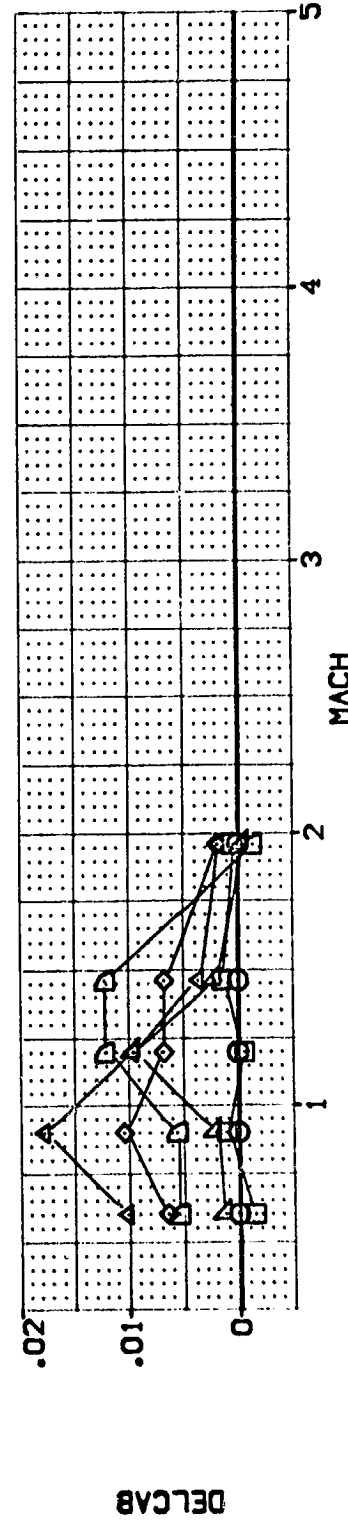
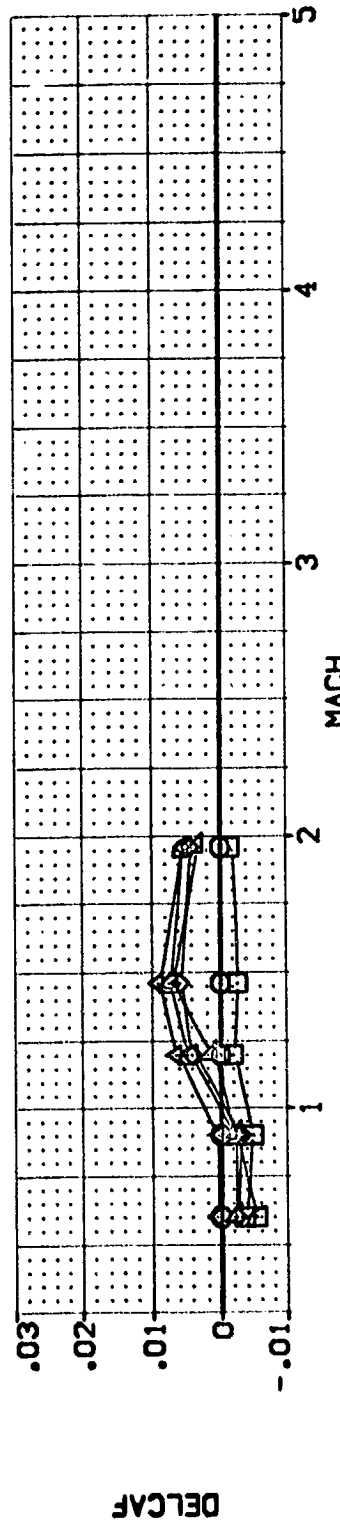
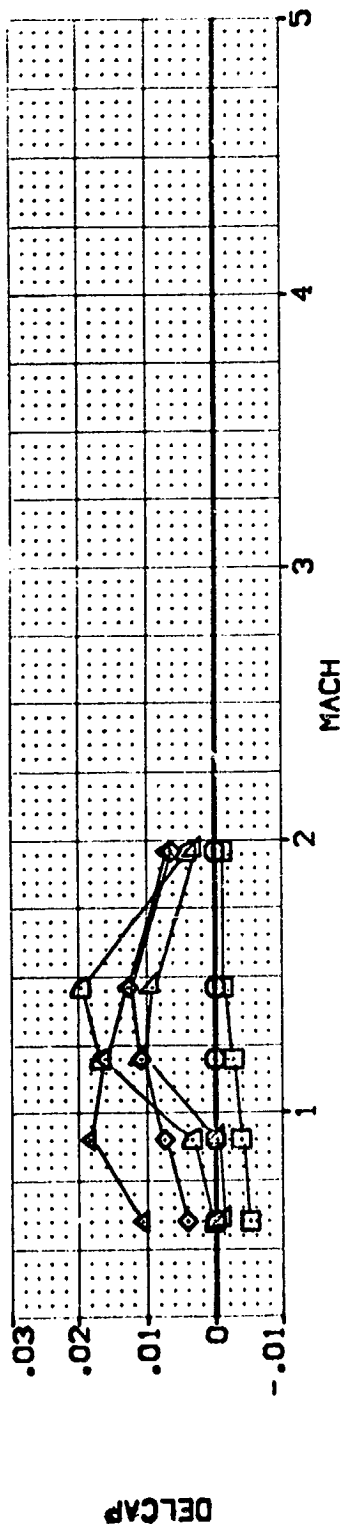
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

[B]ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPOBRK	REFERENCE INFORMATION
[492004]	MSFC S81(CA49) DB 34-0 (BDFH) (VE)(VR)	4.160	-11.700	25.550	PREF 2741.8000 50. FT
[492005]	MSFC S81(CA49) DB 34-0 (BDFH) (VE)(VR)	4.160	16.000	25.550	PREF 481.6480 10. IN.
[492007]	MSFC S81(CA49) DB 34-0 (BDFH) (VE)(VR)	4.160	16.000	25.550	PREF 536.7000 10. IN.
[492115]	MSFC S81(CA49) DB 34-0 (BDFH) (VE)(VR)	16.750	22.600	25.550	YARP 1081.0000 10. IN.
[492008]	MSFC S81(CA49) DB 34-0 (BDFH) (VE)(VR)	16.750	16.300	25.550	YARP 1081.0000 10. IN.
[492116]	MSFC S81(CA49) DB 34-0 (BDFH) (VE)(VR)	16.750	22.600	25.550	YARP 1081.0000 10. IN.

SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

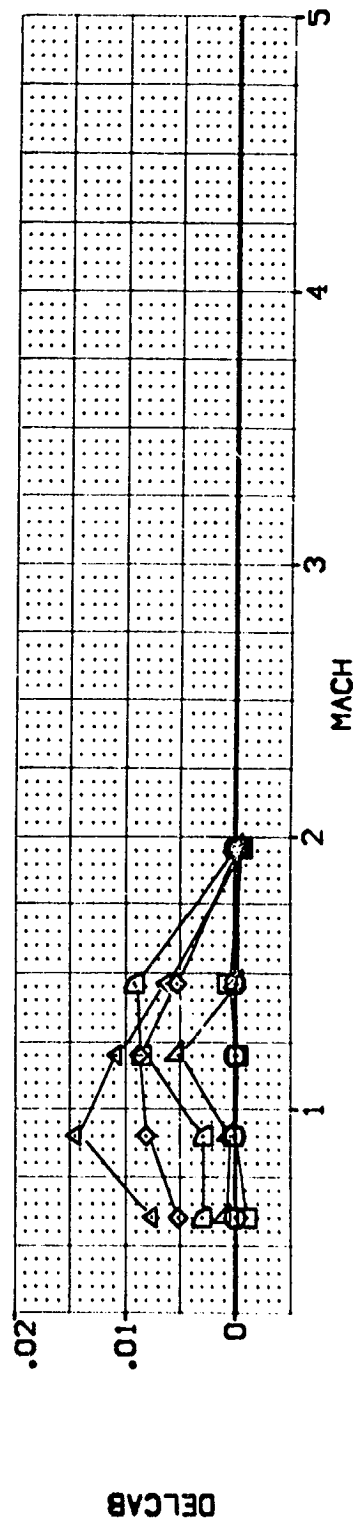
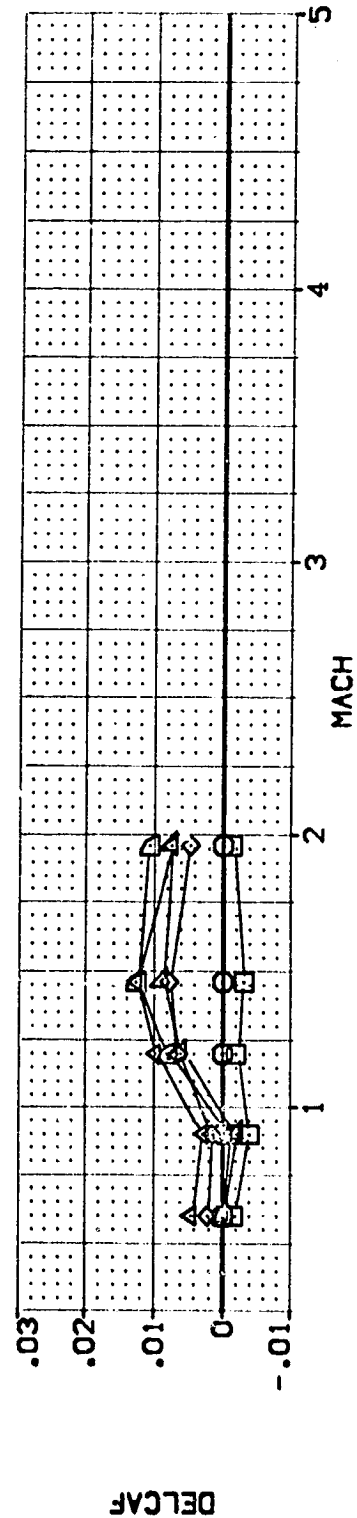
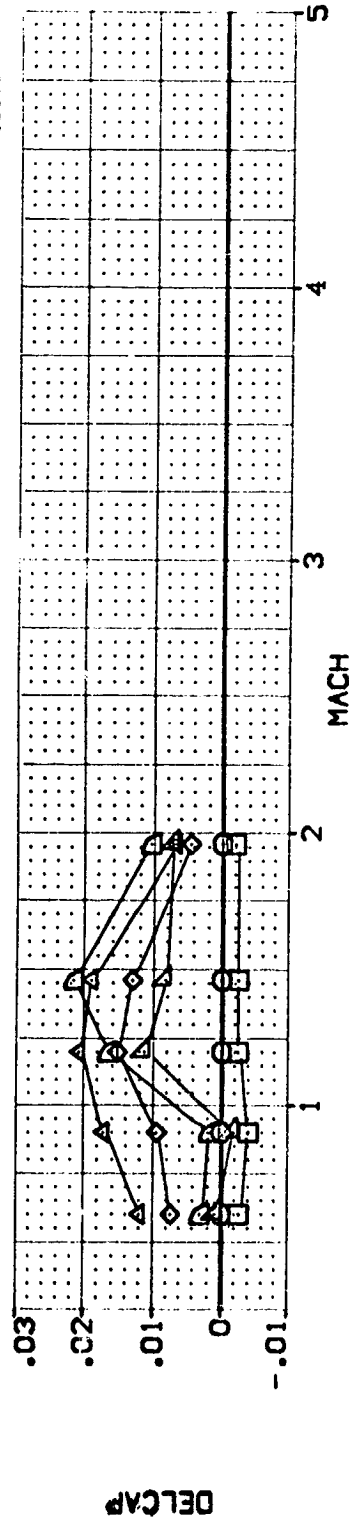
(CJALPHA = 10.00)

DATA SET SYMBOL
 {492004}
 {492005}
 {492006}
 {492007}
 {492115}
 {492008}
 {492115}

CONFIGURATION DESCRIPTION
 HSC 581(0A49) 088 34-0 (BCFN) (VE)(VR)
 HSC 581(0A49) 088 34-0 (BCFN) (VE)(VR)
 HSC 581(0A49) 088 34-0 (BCFN) (VE)(VR)
 HSC 581(0A49) 088 34-0 (BCFN) (VE)(VR)
 HSC 581(0A49) 088 34-0 (BCFN) (VE)(VR)
 HSC 581(0A49) 088 34-0 (BCFN) (VE)(VR)

ELEVTR BDFLAP SPDBRK
 4.160 -11.700 25.550
 4.160 16.300 25.550
 4.160 22.600 25.550
 16.730 16.300 25.550
 16.730 22.600 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3900 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(CD)ALPHA = 15.00



DATA SET SYMBOL

(492004)
(492005)
(492007)
(492115)
(492008)
(492116)

CONFIGURATION DESCRIPTION

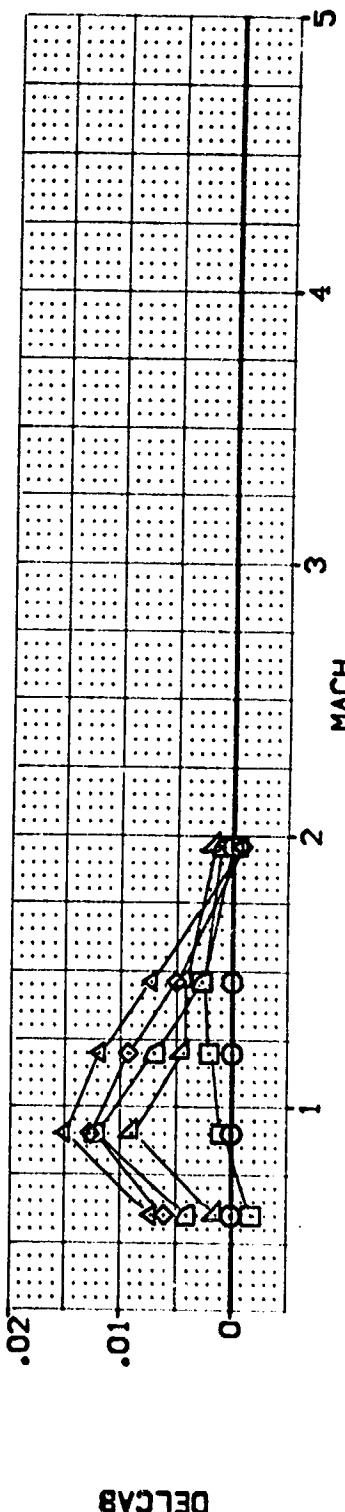
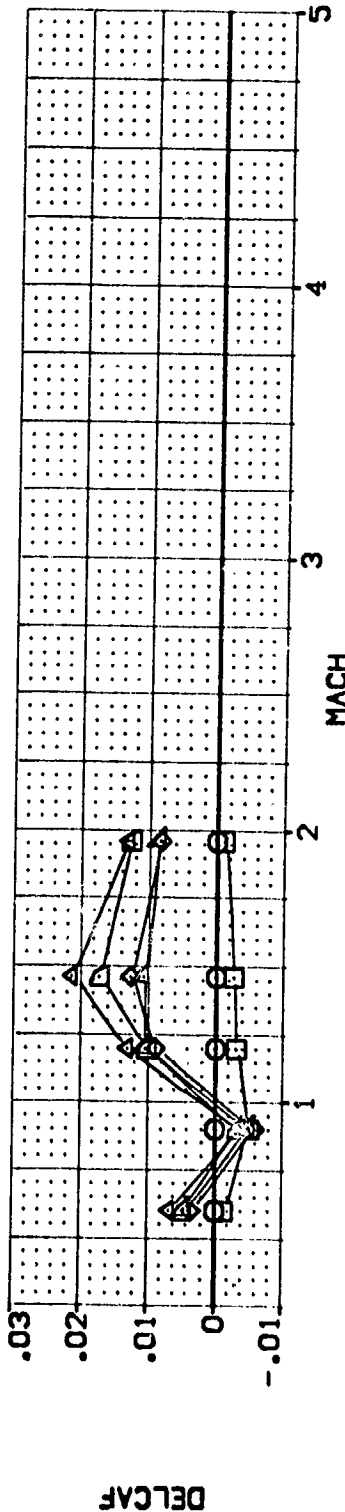
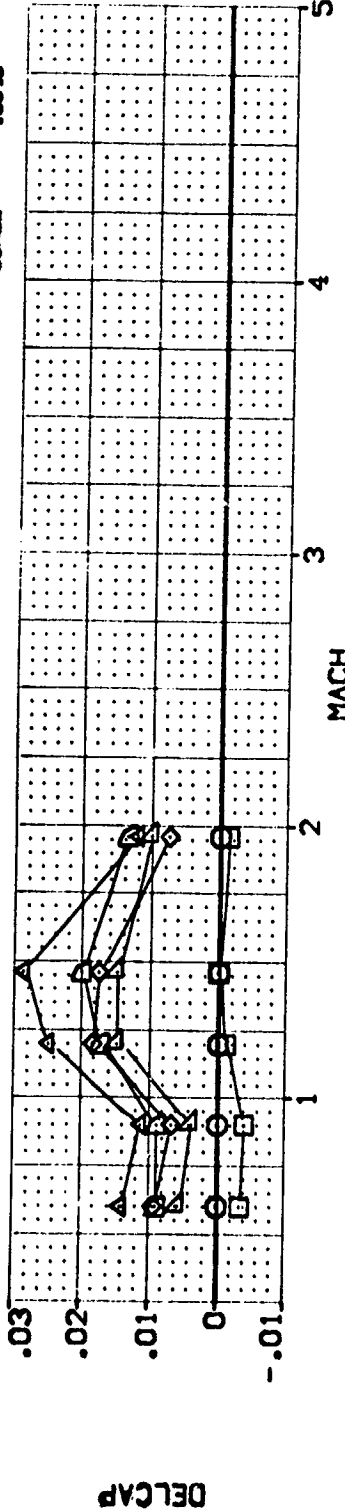
HSFC S81(DA49) CRB 34-0 (BOTH) (VE)(VR)
HSFC S81(DA49) CRB 34-0 (BOTH) (VE)(VR)
HSFC S81(DA49) CRB 34-0 (BOTH) (VE)(VR)
HSFC S81(DA49) CRB 34-0 (BOTH) (VE)(VR)
HSFC S81(DA49) CRB 34-0 (BOTH) (VE)(VR)
HSFC S81(DA49) CRB 34-0 (BOTH) (VE)(VR)

ELEVTR 4.160
4.160
4.160
16.750
16.750
16.750

BOFLAP -11.700
-11.700
-11.700
16.300
16.300
16.300

SPDRK 23.550
23.550
23.550
23.550
23.550
23.550

REFERENCE INFORMATION
SREF 2741.8000 60. FT
LREF 491.6480 IN.
BREF 535.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(E)ALPHA = 20.00

DATA SET SYMBOL

{492A04}
{492A05}
{492A07}
{492A08}

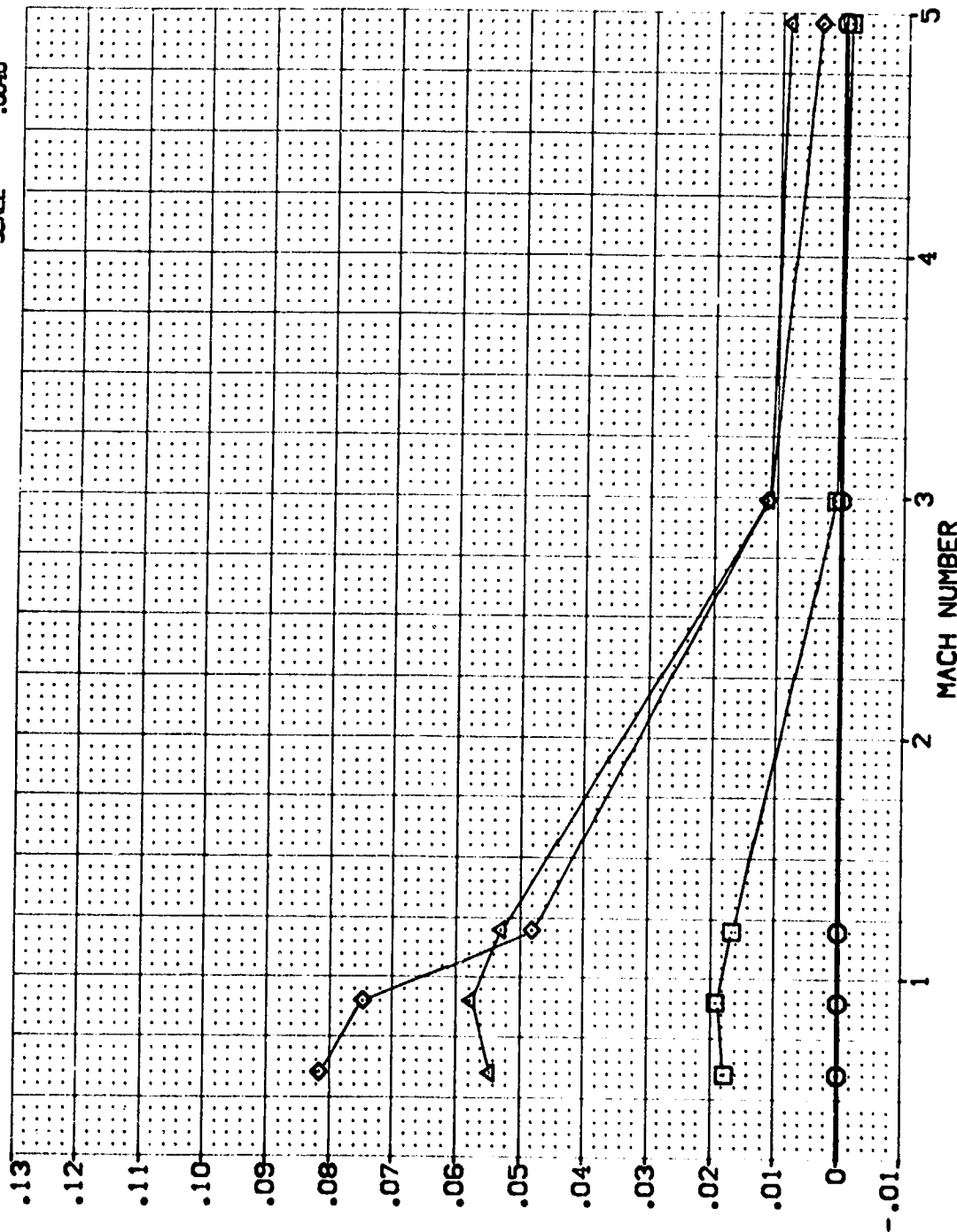
CONFIGURATION DESCRIPTION

MSFC 581(OA19) ORB 34-0 (BOTM) (VE)(VR)
MSFC 581(OA19) ORB 34-0 (BOTM) (VE)(VR)
MSFC 581(OA19) ORB 34-0 (BOTM) (VE)(VR)
MSFC 581(OA19) ORB 34-0 (BOTM) (VE)(VR)

ELEVTR BDFLAP STDBRK
4.160 -11.700 25.550
4.160 0.000 25.550
4.160 16.300 23.550
16.790 16.300 23.550

REFERENCE INFORMATION
SREF 2741.8000 92. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA

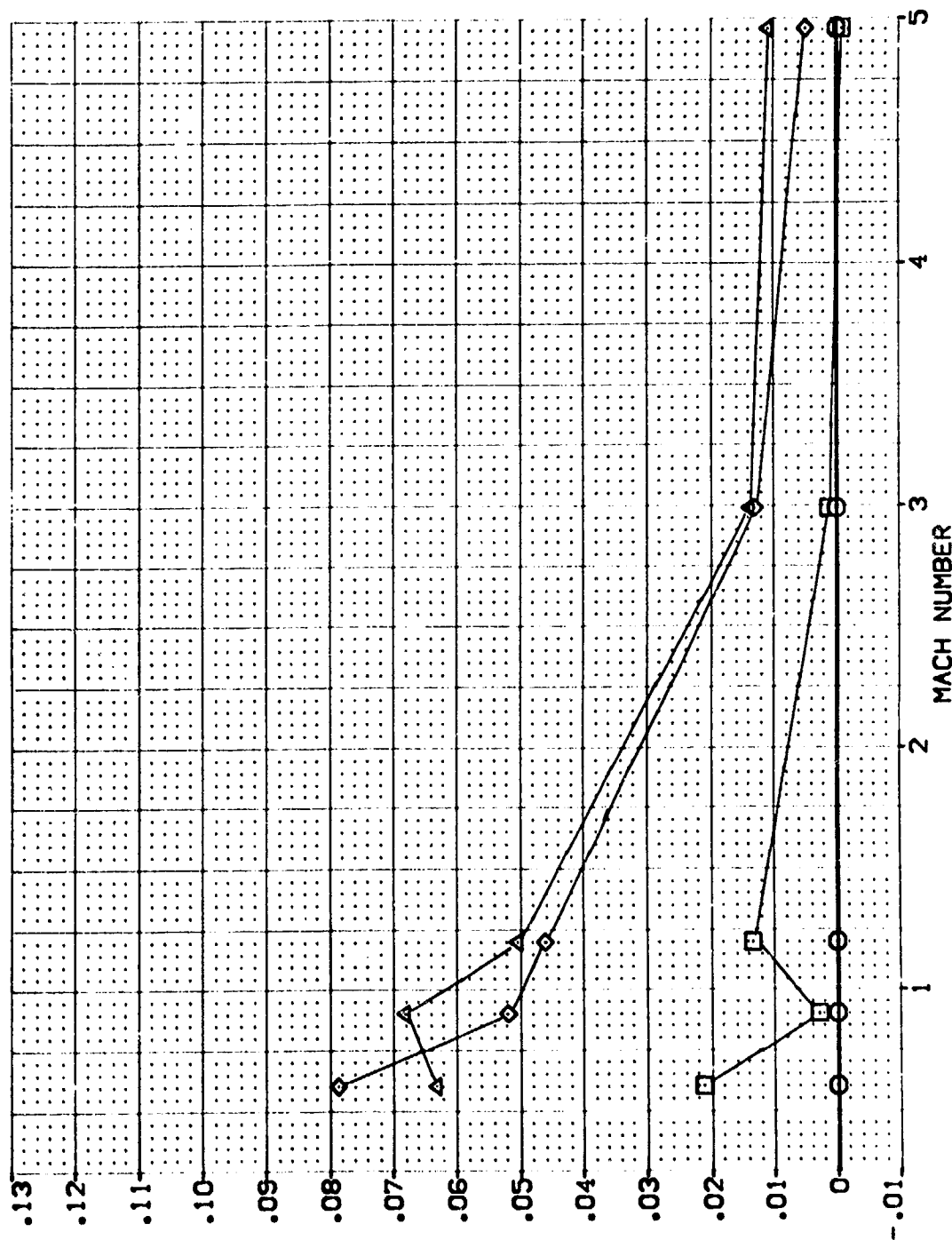


BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BD FLAP	SPORRK	REFERENCE INFORMATION
(482A04)	HSTC 581(0A19) 088 34-0 (BDCH) (VE)(VR)	4.160	-11.700	25.550	REF 2741.8000 SQ. FT
(482A05)	HSTC 581(0A19) 088 34-0 (BDCH) (VE)(VR)	4.160	0.000	25.550	LREF 481.6480 IN.
(482A07)	HSTC 581(0A19) 088 34-0 (BDCH) (VE)(VR)	4.160	16.300	25.550	BREF 936.7000 IN.
(482A08)	HSTC 581(0A19) 088 34-0 (BDCH) (VE)(VR)	16.750	16.300	25.550	YREF 1081.3800 IN.
					ZREF .0000 IN.
					SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

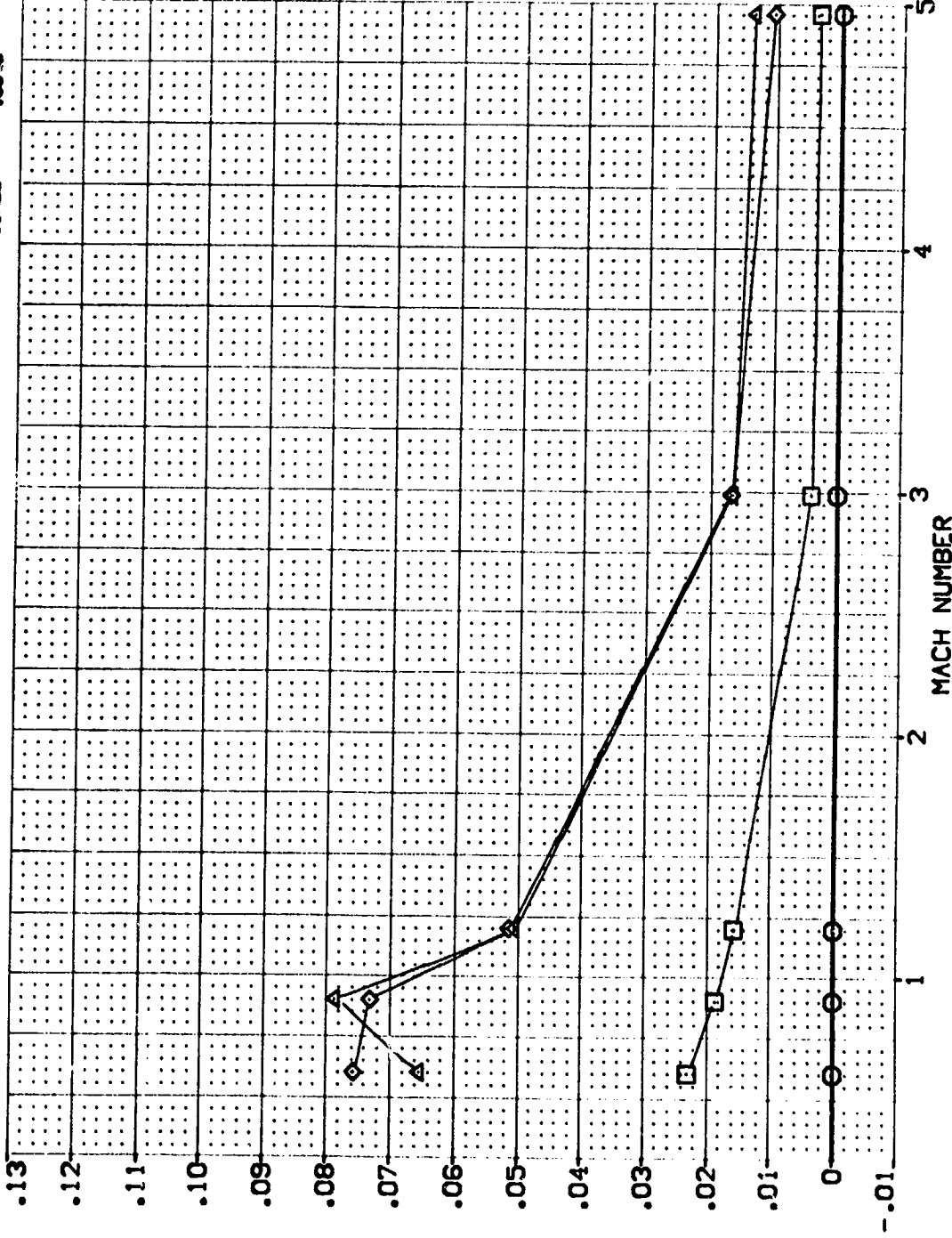
(B)ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

{492A04} MSC 581(CA49) 088 34-0 (BCFM) (VE)(VR)
 {492A05} MSC 581(CA49) 088 34-0 (BCFM) (VE)(VR)
 {492A07} MSC 581(CA49) 088 34-0 (BCFM) (VE)(VR)
 {492A08} MSC 581(CA49) 088 34-0 (BCFM) (VE)(VR)

ELEVTR 80FLAP 900BRK
 4.160 -11.700 25.550
 4.160 0.000 25.550
 4.160 16.300 25.550
 16.750 16.300 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XMRP 1081.3500 IN.
 YMRP 0.0000 IN.
 ZMRP 0.0000 IN.
 SCALE 0040

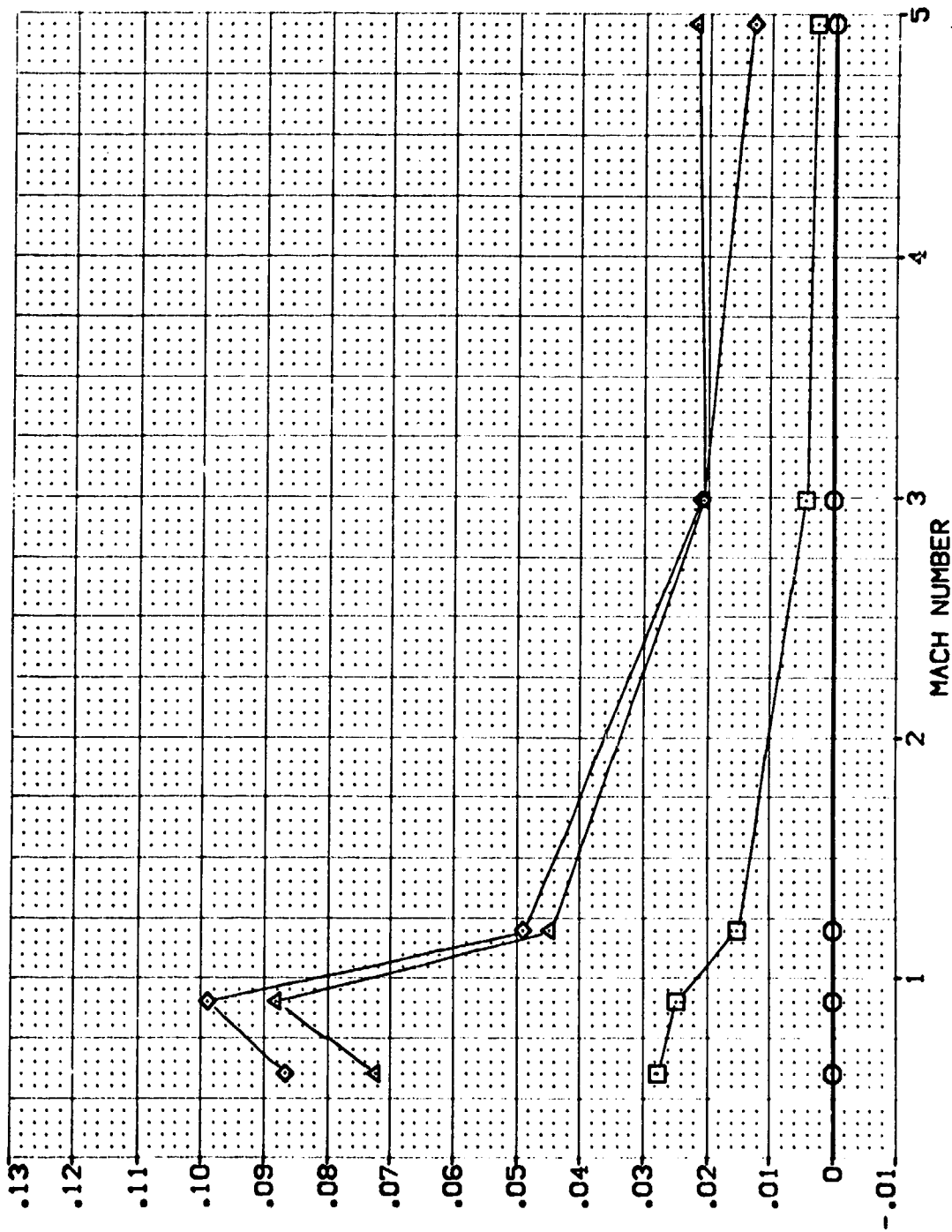


BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(CJALPHA = 10.00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BOFLAP	SPDRK	REFERENCE INFORMATION
{432/04}	HSTC 581(OA4S) C88 34-0 (BOCH) (VE)(VR)	4.160	-11.700	25.550	SREF 2741.8000 92. FT
{432/05}	HSTC 581(OA4S) C88 34-0 (BOCH) (VE)(VR)	4.160	0.000	25.550	LREF 481.6480 IN.
{432/07}	HSTC 581(OA4S) C88 34-0 (BOCH) (VE)(VR)	4.160	16.300	25.550	BREF 936.7000 IN.
{432/08}	HSTC 581(OA4S) C88 34-0 (BOCH) (VE)(VR)	16.750	16.300	25.550	XREF 1081.3500 IN.
					YREF 0.0000 IN.
					ZREF 0.0000 IN.
					SCALE 0.0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(CO)ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

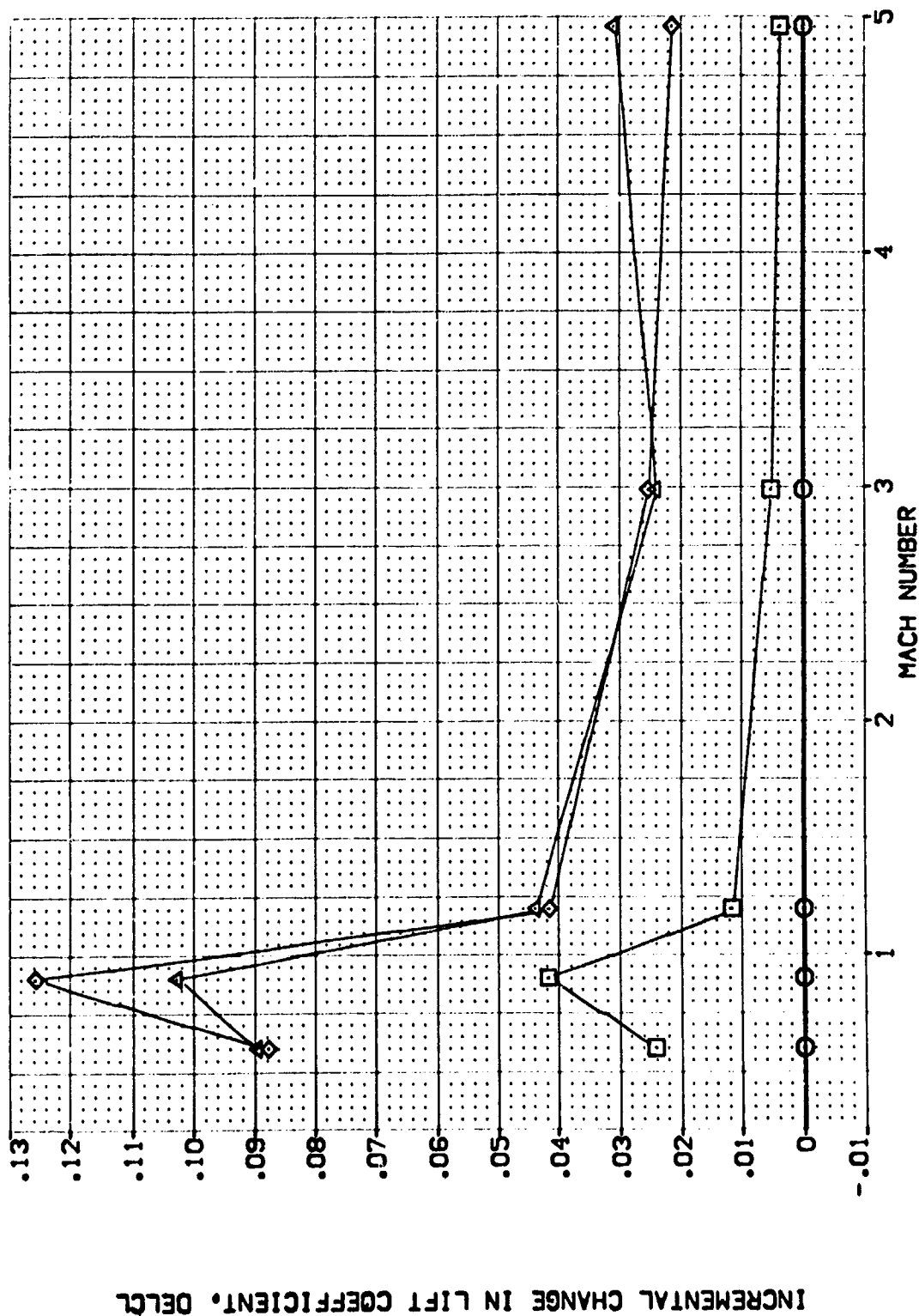
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(492A04)	MSFC 581 (DA19) DRB 34-0 (BOTH) (VE) (VR)
(492A05)	MSFC 531 (CA19) DRB 34-0 (BOTH) (VE) (VR)
(492A07)	MSFC 581 (DA19) DRB 34-0 (BOTH) (VE) (VR)
(492A08)	MSFC 581 (DA19) DRB 34-0 (BOTH) (VE) (VR)

ELEVTR BDFLAP SPDRBK

ELEVTR	BDFLAP	SPDRBK
4.160	-11.700	25.950
4.160	.000	25.950
4.160	16.300	25.950
16.790	16.300	25.950

REFERENCE INFORMATION FT

REFERENCE INFORMATION	FT
SREF	2741.8000
LREF	481.6480
BREF	936.7000
XPRP	1081.3500
YPRP	.0000
ZPRP	.0000
SCALE	.0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(E) ALPHA = 20.00

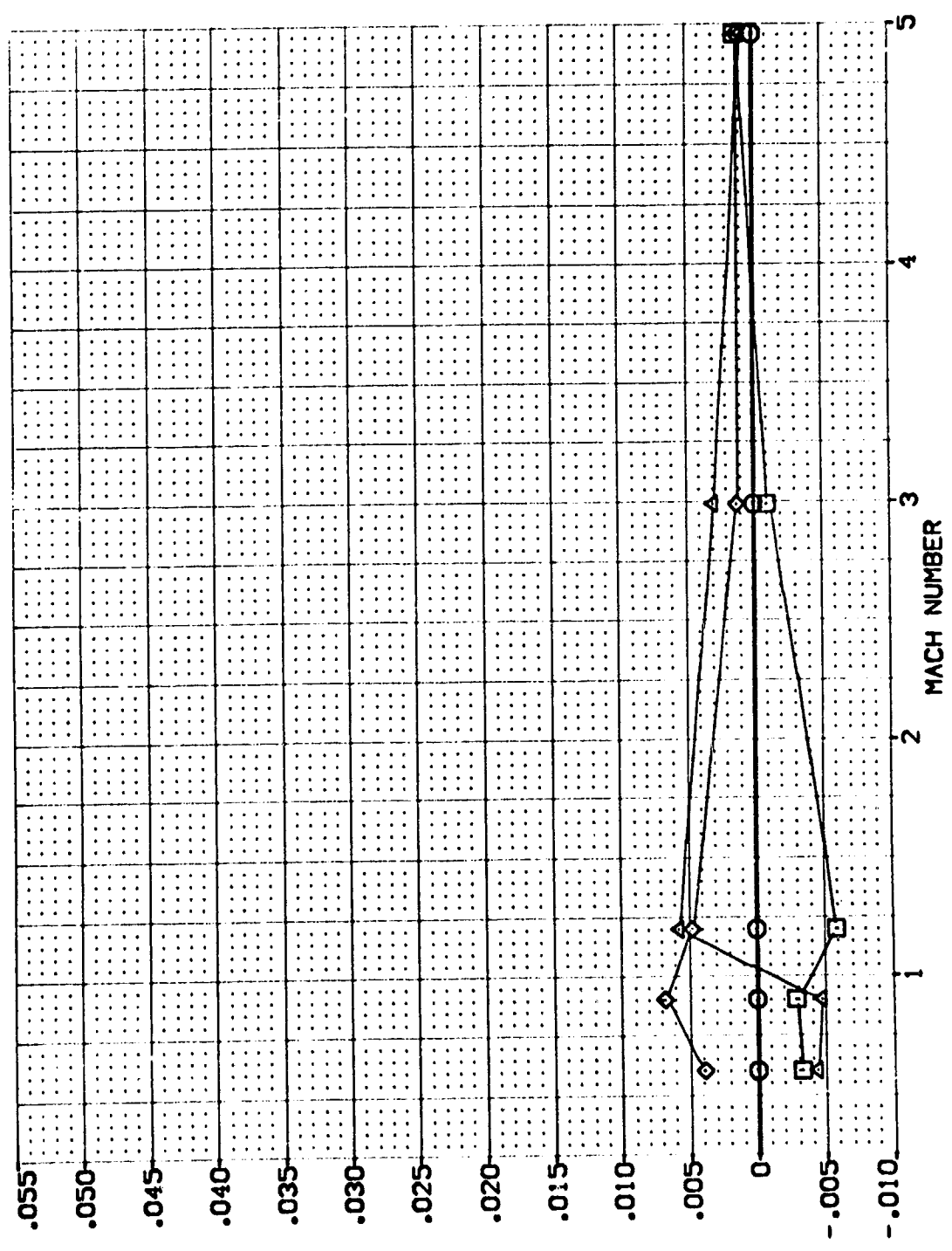


DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	S/DARK
{452A04}	H57C 581 (0A19) DBB 34-0 (BDTH) {VE}{VR}	4.150	-11.700	25.550
{452A05}	H57C 581 (0A19) DBB 34-0 (BDTH) {VE}{VR}	4.150	0.000	25.550
{452A06}	H57C 581 (0A19) DBB 34-0 (BDTH) {VE}{VR}	4.150	16.300	25.550
{452A07}	H57C 581 (0A19) DBB 34-0 (BDTH) {VE}{VR}	16.750	16.300	25.550

REFERENCE INFORMATION

REF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XTRP	1081.3800	IN.
YTRP	.0000	IN.
ZTRP	.0000	IN.
SCALE	.0040	



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

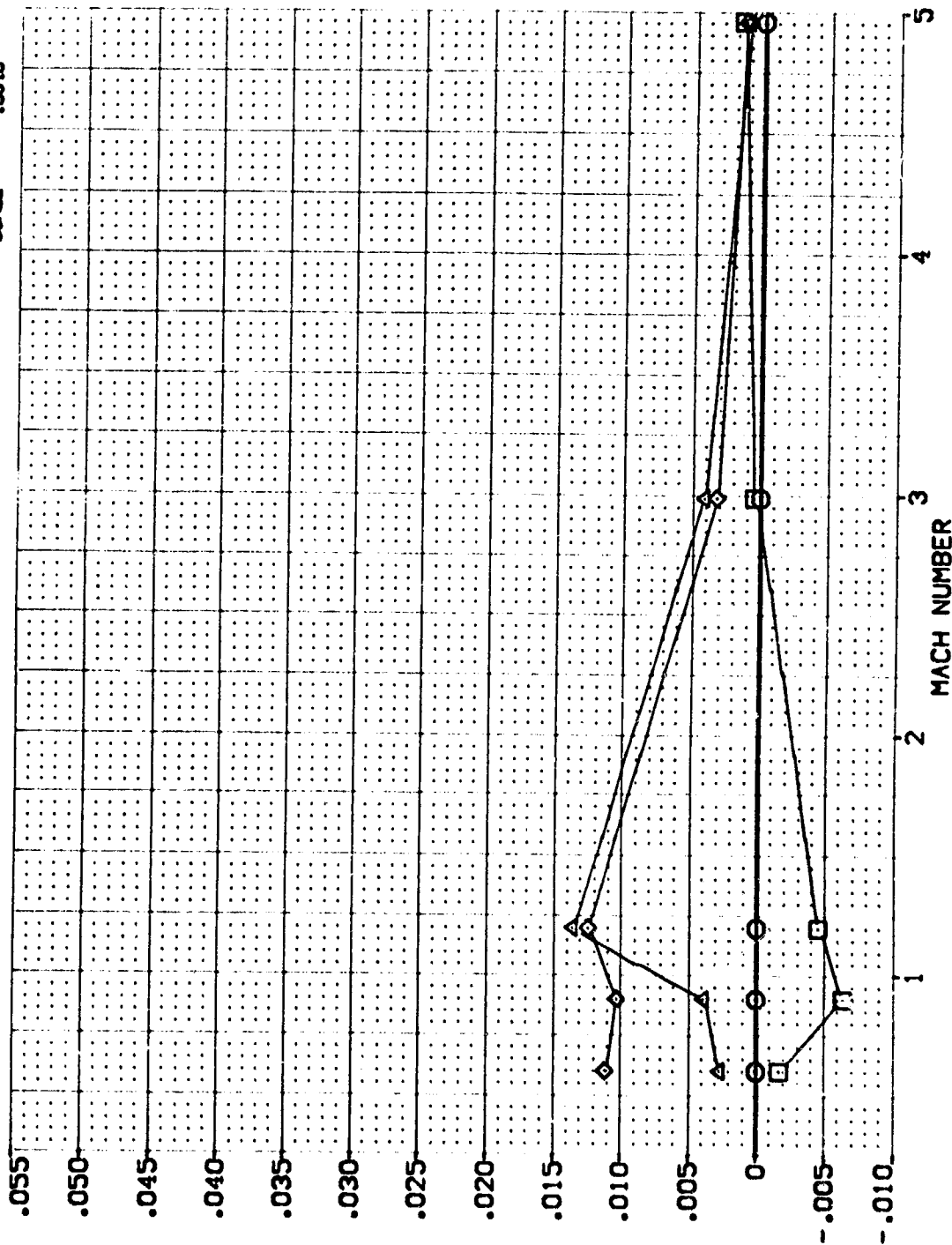
{A}ALPHA = .00

DATA SET SYMBOL
(482A04)
(482A05)
(482A06)
(482A07)
(482A08)

CONFIGURATION DESCRIPTION
HSTC 581(CA19) CRB 34-0 (BDTH) (VE)(VR)
HSTC 581(CA19) CRB 34-0 (BDTH) (VE)(VR)
HSTC 581(CA19) CRB 34-0 (BDTH) (VE)(VR)
HSTC 581(CA19) CRB 34-0 (BDTH) (VE)(VR)

ELEVTR BD FLAP SPDRK
4.160 -11.700 25.550
4.160 0.00 25.550
4.160 16.300 25.550
16.790 18.300 25.550

REFERENCE INFORMATION
SREF 2741.8000 50. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XPRP 1081.3500 IN.
YPRP .0000 IN.
ZPRP .0000 IN.
SCALE .0040



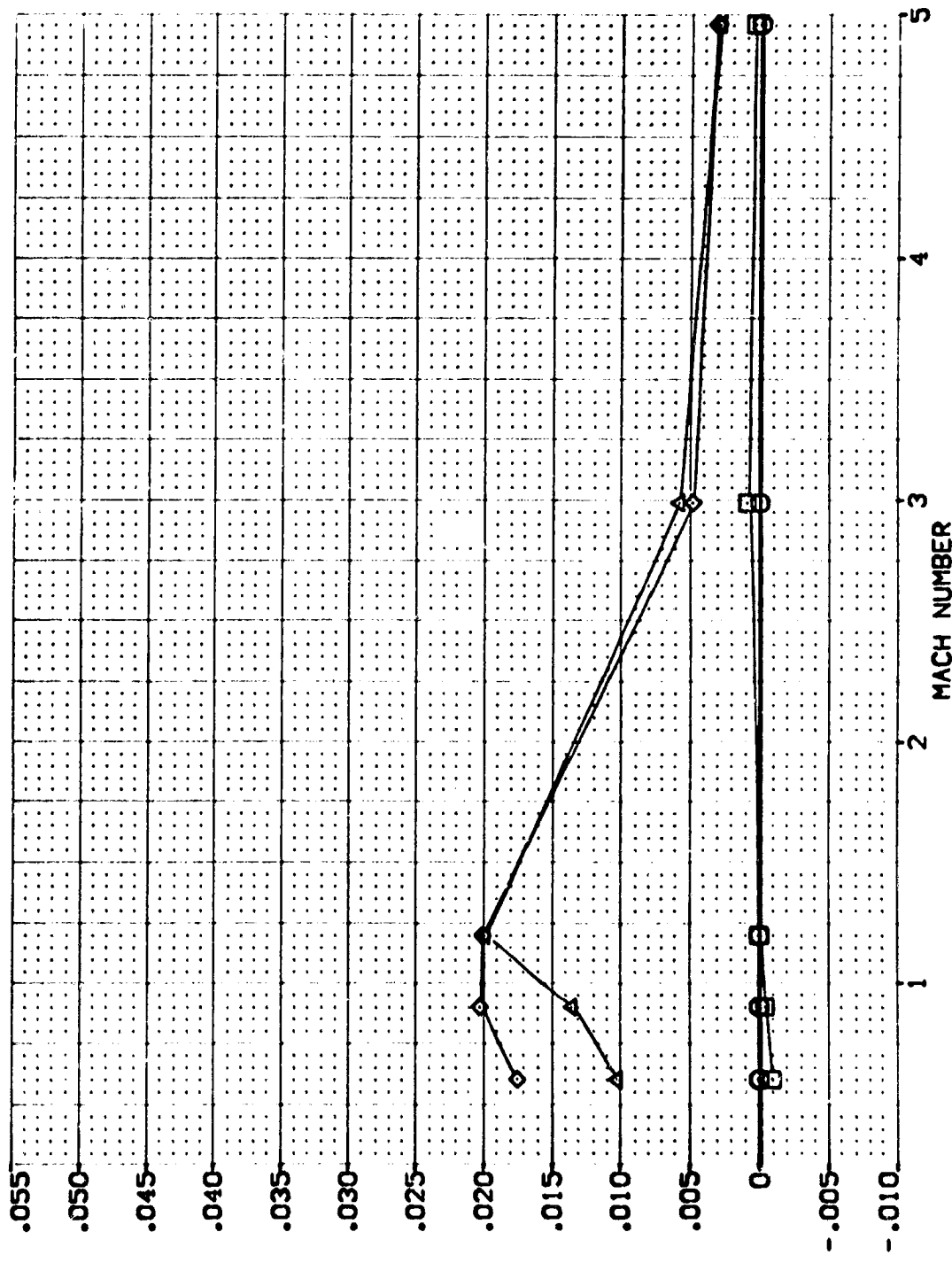
INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELTA CD

BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(B)ALPHA = 5.00



DATA SET SYMBOL: { 432A04 } { 432A05 } { 432A07 } { 432A08 }
 CONFIGURATION DESCRIPTION: MSFC 58110A43) 078 3A-0 (BDFM) (VE) (VR) MSFC 58110A43) 078 3A-0 (BDFM) (VE) (VR) MSFC 58110A43) 078 3A-0 (BDFM) (VE) (VR) MSFC 58110A43) 078 3A-0 (BDFM) (VE) (VR)
 ELEVTR 80FLAP SP00RK
 4.180 -11.700 25.550
 4.180 0.000 25.550
 4.180 16.300 25.550
 16.750 16.300 25.550
 REFERENCE INFORMATION
 SREF 2741.8000 90. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(C) ALPHA = 10.00

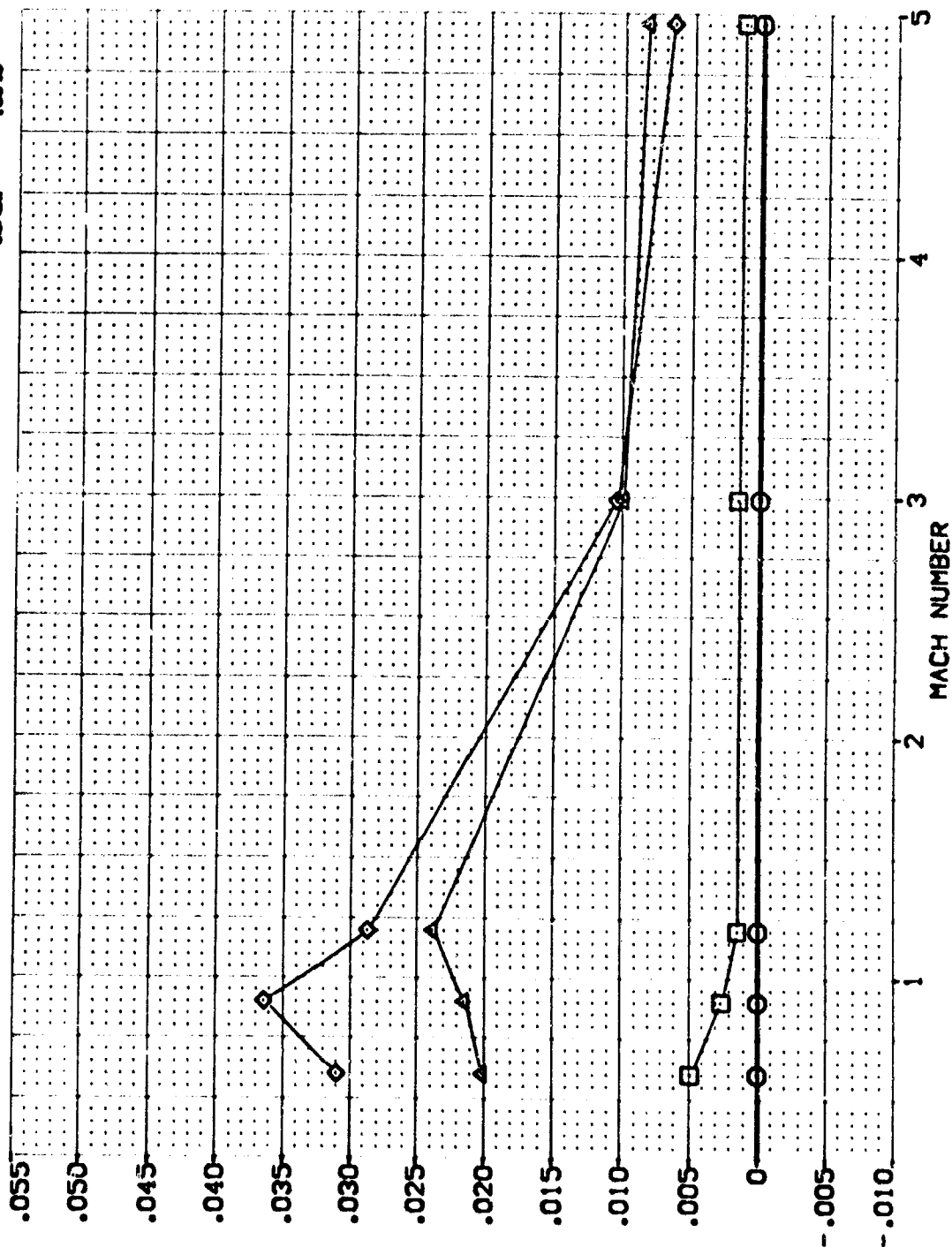
DATA SET SYMBOL
 (432A04)
 (432A05)
 (432A07)
 (432A08)

CONFIGURATION DESCRIPTION
 HSTC 581 (0A19) 028 34-0 (BOTH) (VE)(VR)
 HSTC 591 (0A19) 028 34-0 (BOTH) (VE)(VR)
 HSTC 581 (0A19) 028 34-0 (BOTH) (VE)(VR)
 HSTC 581 (0A19) 028 34-0 (BOTH) (VE)(VR)

ELEVTR BDFLAP SPOBRK
 4.180 -11.700 25.550
 4.180 0.000 25.550
 4.180 16.300 25.550
 16.750 16.300 25.550

REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XREF 1081.3500 IN.
 YREF 0.0000 IN.
 ZREF 0.0000 IN.
 SCALE 0.0040

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



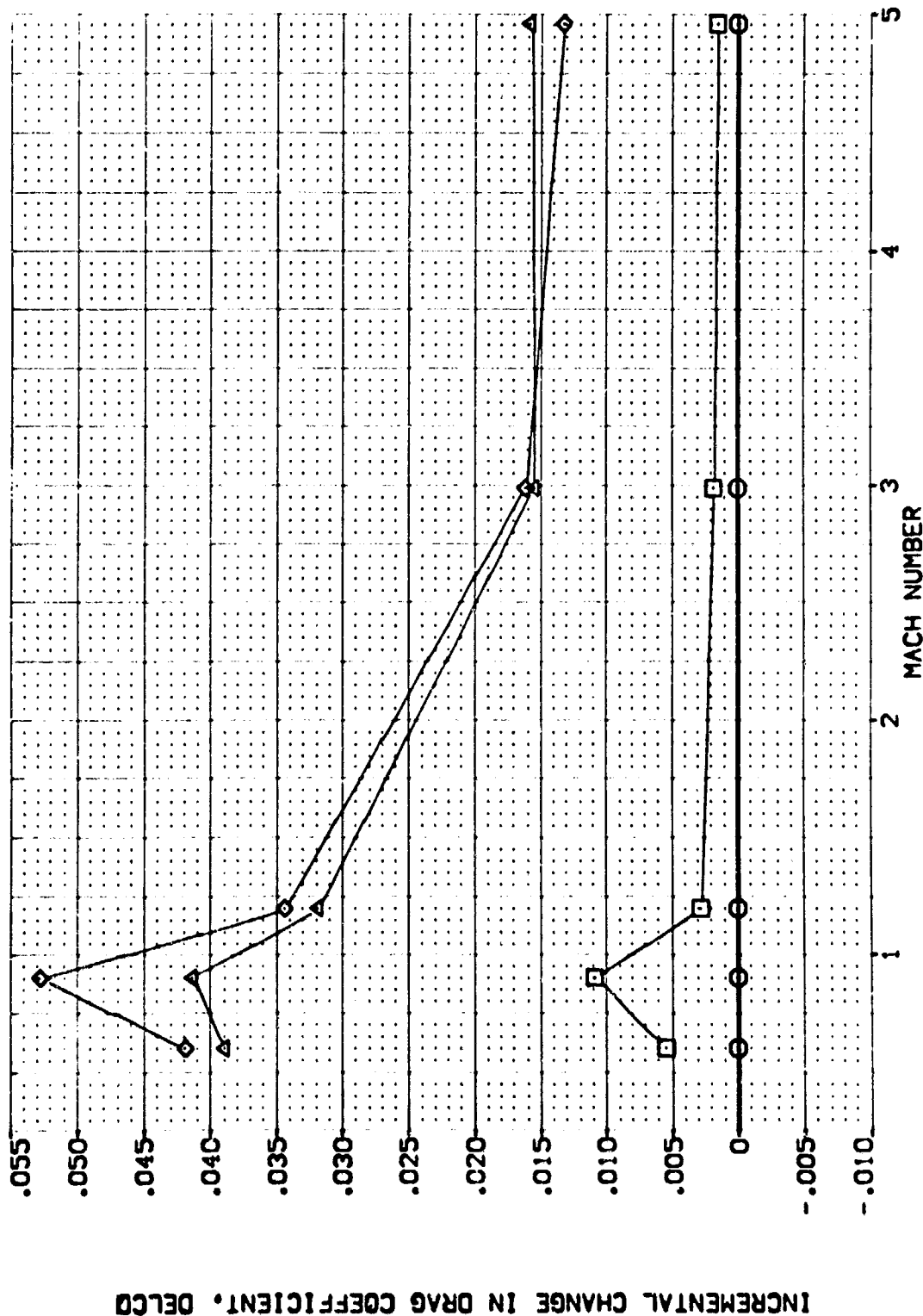
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
 (C) ALPHA = 15.00

DATA SET SYMOL CONFIGURATION DESCRIPTION

SYMBOL	DESCRIPTION	REF. INFO
492A04	MSFC 531(0A15) 058 34-0 (BDTH) (VE)(VR)	REF 2741.8000 SQ. FT
492A05	MSFC 531(0A15) 058 34-0 (BDTH) (VE)(VR)	LREF 481.6480 IN.
492A07	MSFC 531(0A15) 058 34-0 (BDTH) (VE)(VR)	BREF 936.7000 IN.
492A08	MSFC 531(0A15) 058 34-0 (BDTH) (VE)(VR)	YREF 1081.3000 IN.
		ZREF .0000 IN.
		SCALE .0040

ELEVTR BDFLAP SPDRBK

4.180	-11.700	23.500
4.180	.000	23.500
16.750	16.300	23.500



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(E)ALPHA = 20.00

DATA SET SYMBOL

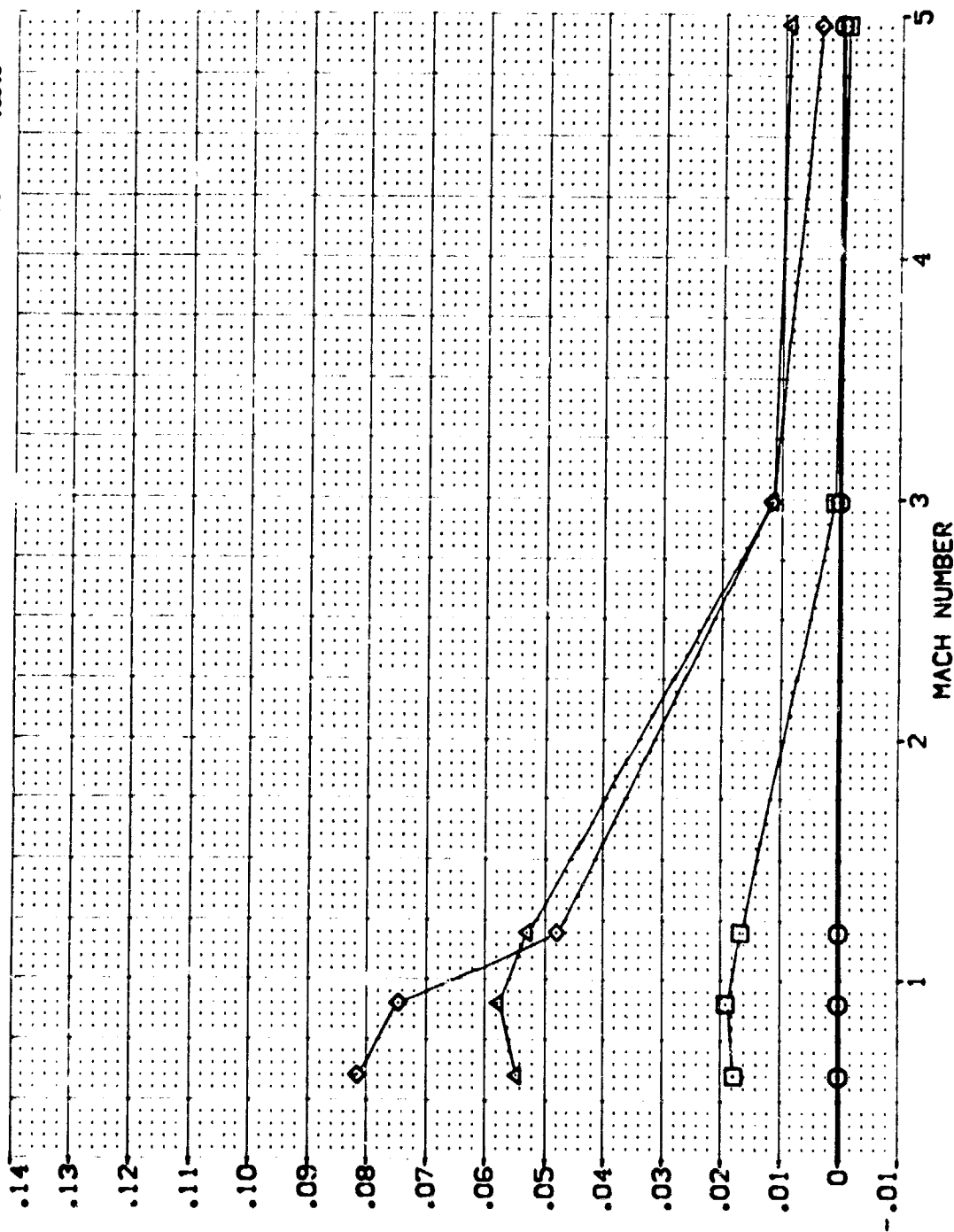
CONFIGURATION DESCRIPTION

MSFC 581(GA45) 088 34-0 (BDPH) (VE)(VR)
 MSFC 581(GA45) 088 34-0 (BDPH) (VE)(VR)
 MSFC 581(GA45) 088 34-0 (BDPH) (VE)(VR)

ELEVTR BDFLAP SPDRBK
 4.160 -11.700 25.550
 4.160 .000 25.550
 16.750 16.300 25.550

REFERENCE INFORMATION
 GREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3900 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

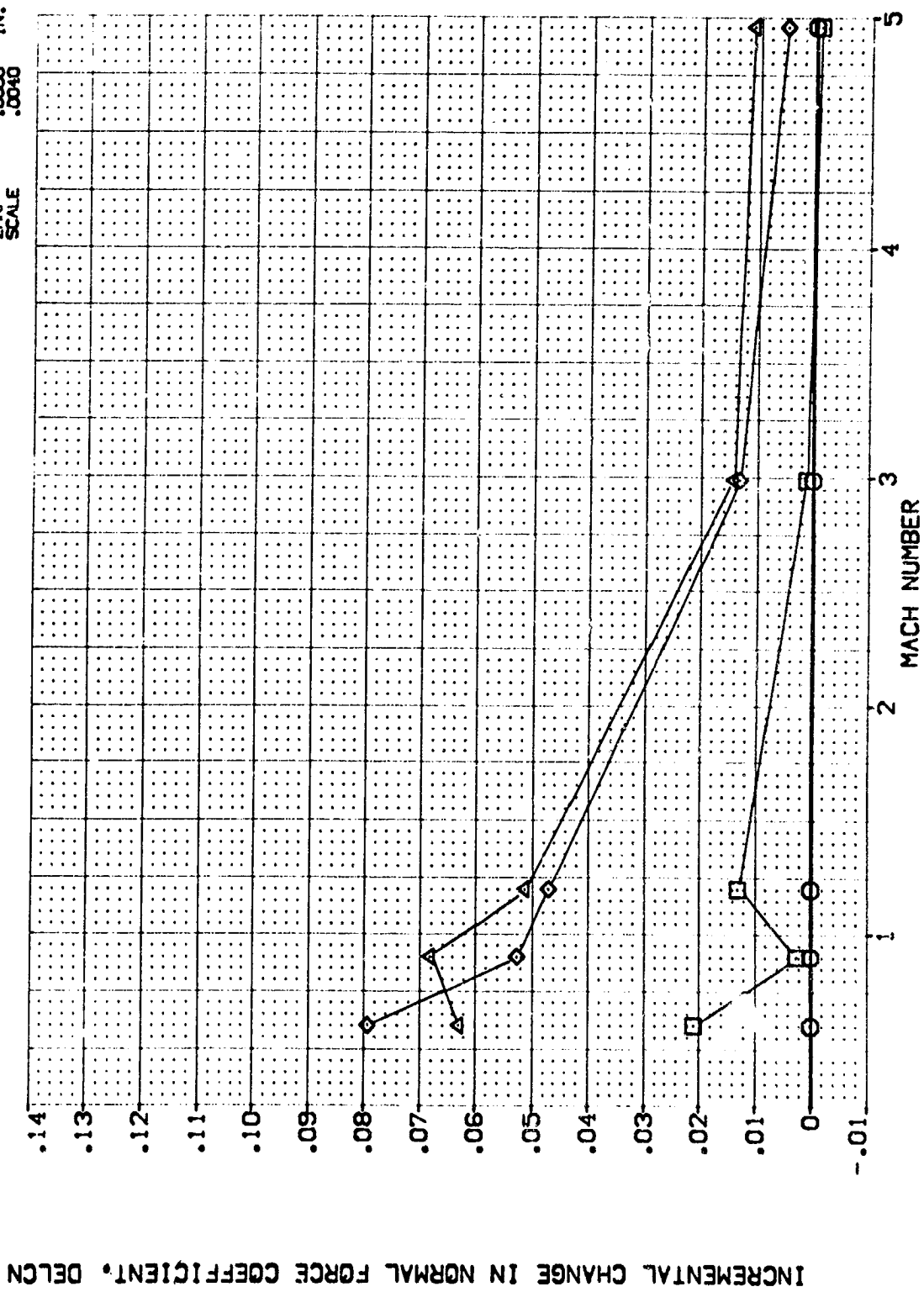


BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(A)ALPHA = .00



DATA SET SYMBO	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPDRBK	REFERENCE INFORMATION
{452A04}	MSFC 581(0A49) DB 34-0 (BOTH) (VE)(VR)	4.180	-11.700	25.550	SREF 2741.8000 SQ. FT
{452A05}	MSFC 531(0A49) DB 34-0 (BOTH) (VE)(VR)	4.180	0.000	23.550	LREF 481.6480 IN.
{452A07}	MSFC 581(0A49) DB 34-0 (BOTH) (VE)(VR)	4.180	16.320	23.550	BREF 936.7000 IN.
{452A08}	MSFC 581(0A49) DB 34-0 (BOTH) (VE)(VR)	16.790	16.300	25.550	XMRP 1081.3900 IN.
					YMRP 0.0000 IN.
					ZMRP 0.0000 IN.
					SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(B) ALPHA = 5.00

DATA SET SYMBOL: (492A04)
 (492A05)
 (492A07)
 (492A08)

CONFIGURATION DESCRIPTION
 MSFC 581(0A49) CRB 34-0 (BOTH) (VE)(VR)
 MSFC 501(0A49) CRB 34-0 (BOTH) (VE)(VR)
 MSFC 531(0A49) CRB 34-0 (BOTH) (VE)(VR)
 MSFC 581(0A49) CRB 34-0 (BOTH) (VE)(VR)

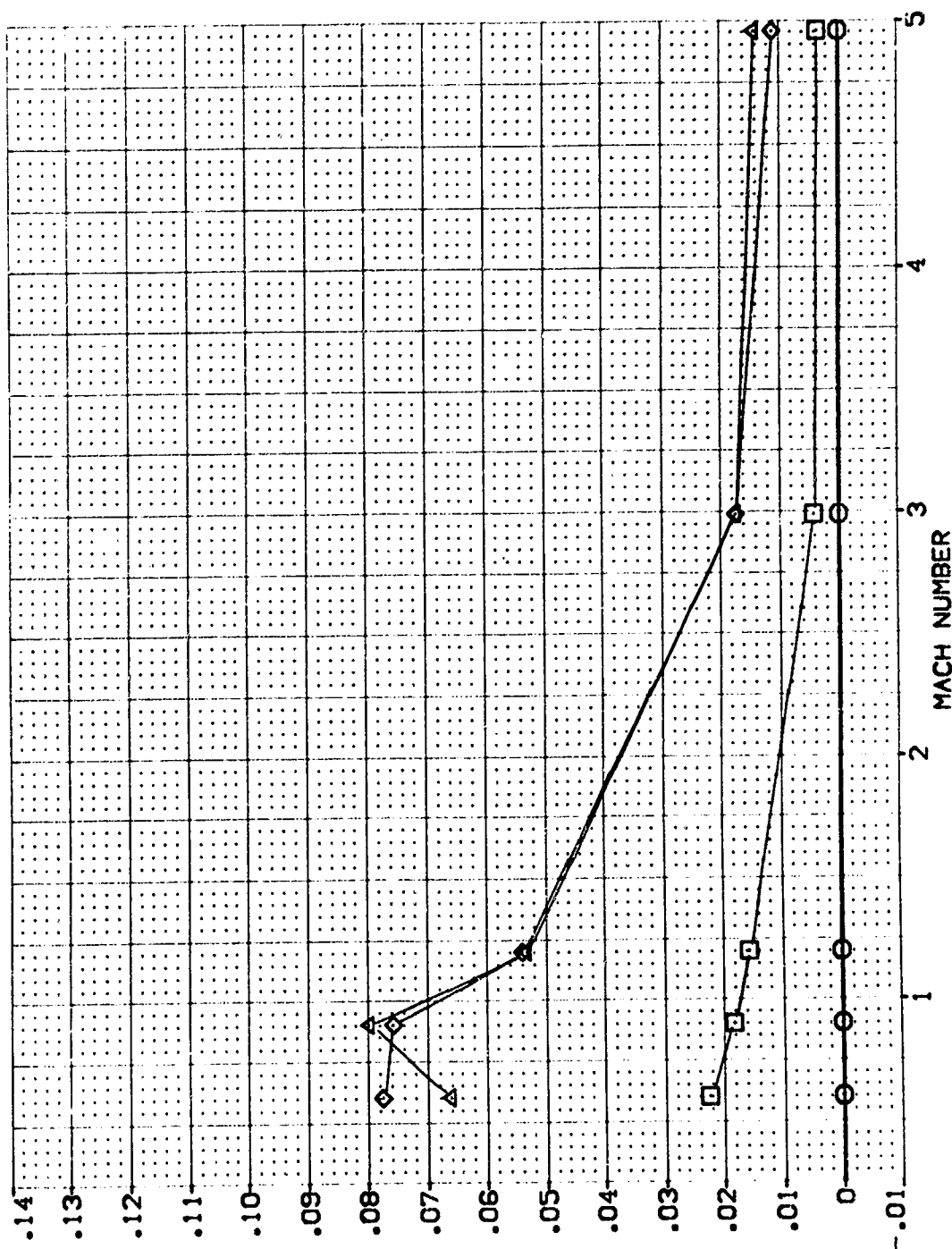
ELEVTR 4.160
 4.160
 4.160
 16.790

BOFLAP -11.700
 .000
 16.300
 16.300

SPDBRK 25.550
 25.550
 25.550
 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
 (C)ALPHA = 10.00



DATA SET SYMBOLS: (452A04) (452A05) (452A07) (452A08)

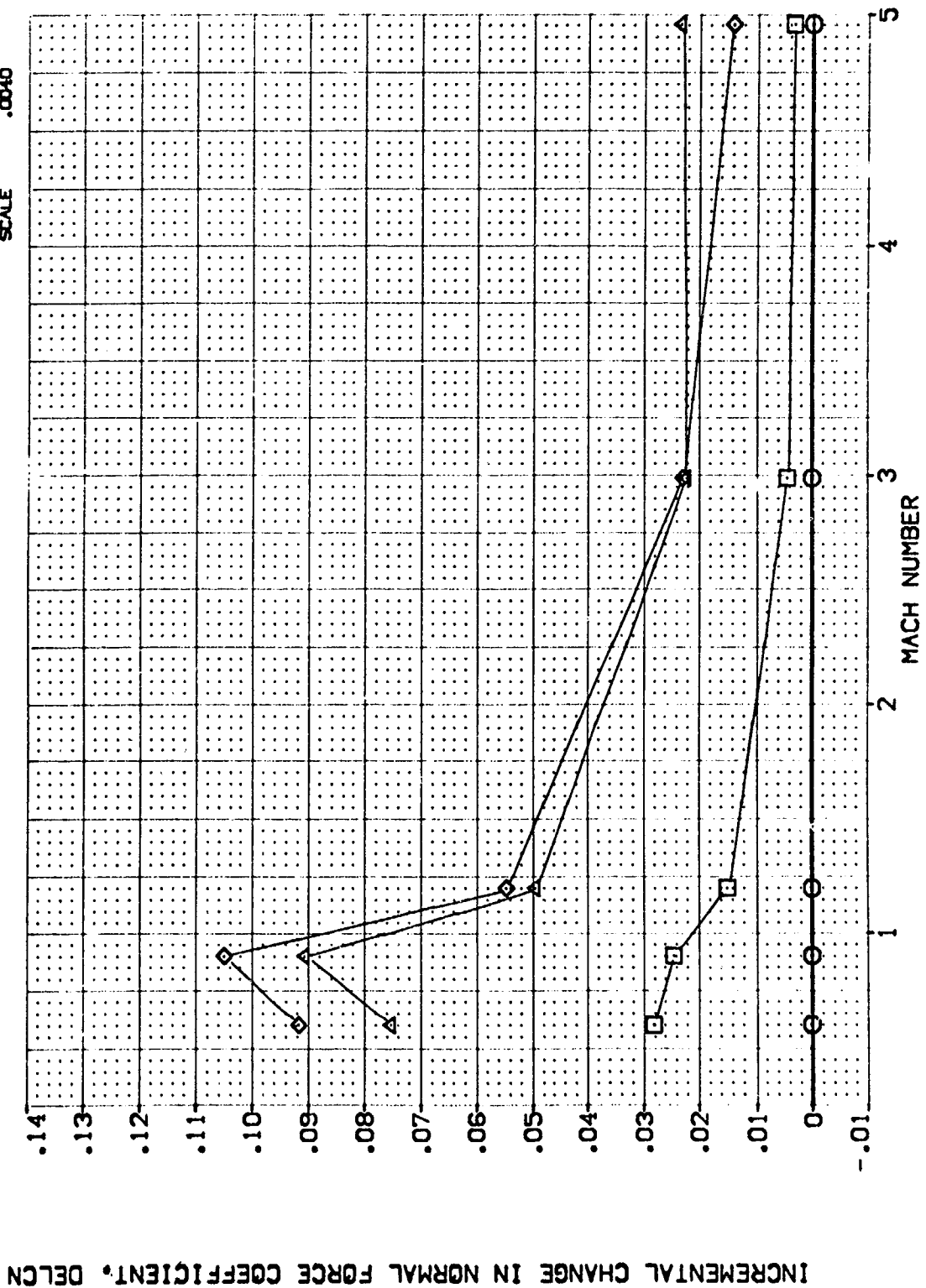
CONFIGURATION DESCRIPTION: H5FC 581 (DA49) 038 34-0 (BOTH) (VE) (VR) H5FC 531 (DA49) 038 34-0 (BOTH) (VE) (VR) H5FC 581 (DA49) 038 34-0 (BOTH) (VE) (VR) H5FC 581 (DA49) 038 34-0 (BOTH) (VE) (VR)

ELEVTR: 4.180 4.180 4.180 16.750

BOFLAP: -11.700 0.000 16.300 16.300

SPDBRK: 25.550 25.550 25.550 25.550

REFERENCE INFORMATION: SREF 2741.8000 80. FT LREF 481.6480 IN. BREF 936.7000 IN. XPRP 1081.3500 IN. YPRP .0000 IN. ZPRP .0000 IN. SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(CO) ALPHA = 15.00

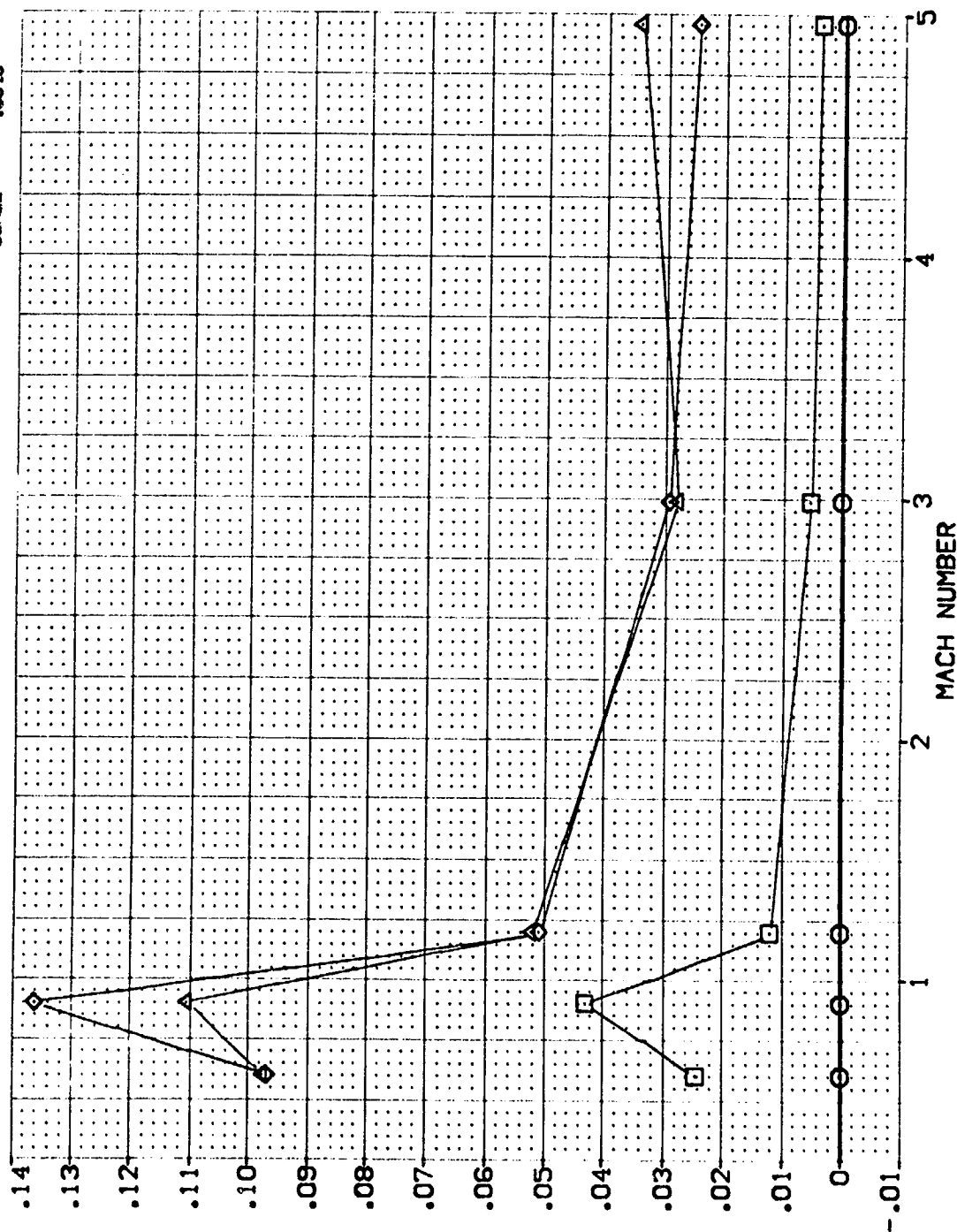


INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(432A04) HSC 501(CA49) 0RB 34-0 (BOFH) (VE)(VR)
(432A05) HSC 531(CA49) 0RB 34-0 (BOFH) (VE)(VR)
(432A07) HSC 531(CA49) 0RB 34-0 (BOFH) (VE)(VR)
(432A08) HSC 531(CA49) 0RB 34-0 (BOFH) (VE)(VR)

ELEVTR BOFLAP SPDRBK
4.160 -11.700 25.550
4.160 0.000 25.550
4.160 16.300 25.550
16.750 16.300 25.550

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7300 IN.
XMRP 1081.3600 IN.
YMRP 0.0000 IN.
ZMRP 0.0000 IN.
SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

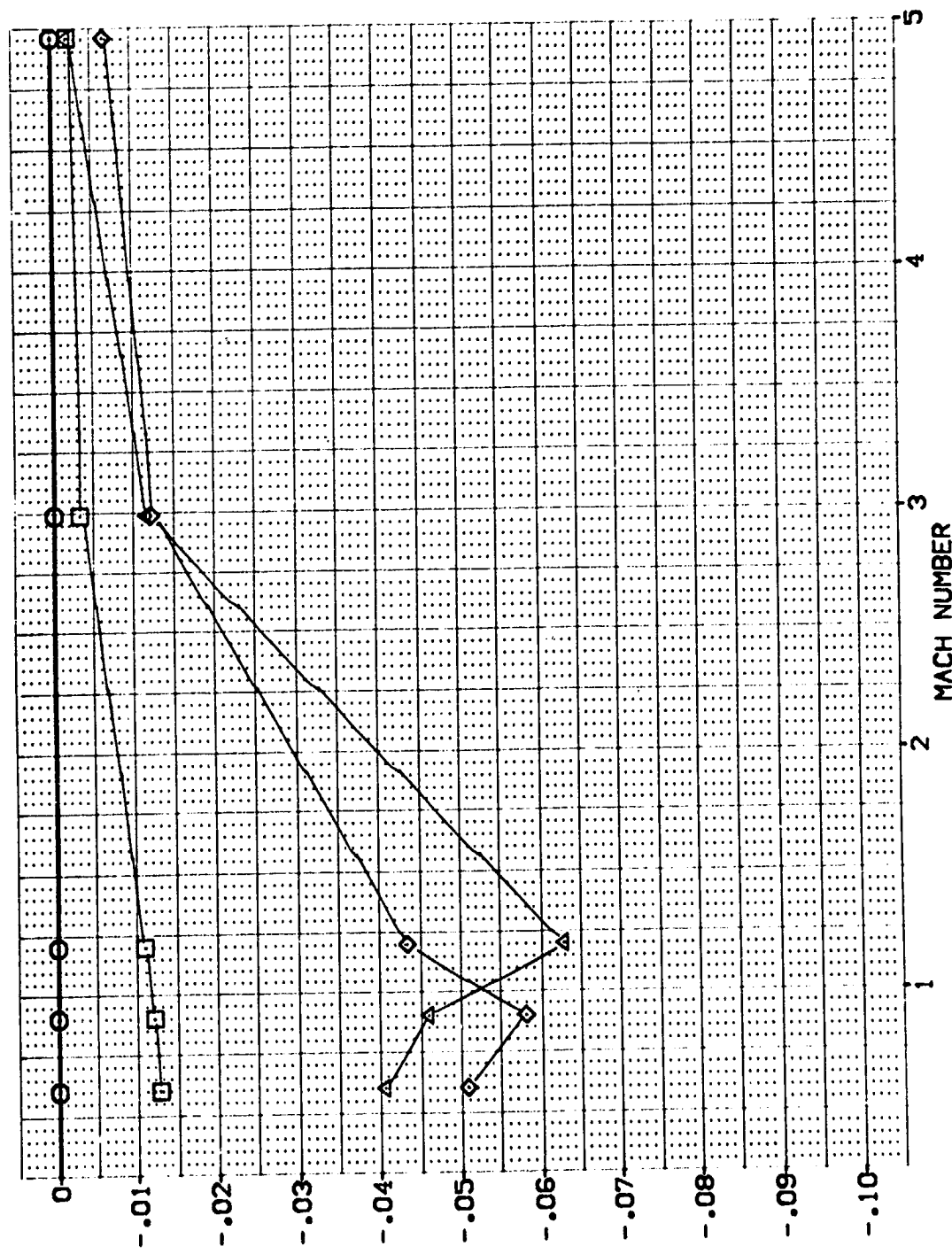
(E)ALPHA = 20.00

DATA SET SYMBL CONFIGURATION DESCRIPTION
 {492A04} HSTC 581(OA49) ORB 34-0 (BDTH) [VE](VR)
 {492A06} HSTC 531(OA49) ORB 34-0 (BDTH) [VE](VR)
 {492A07} HSTC 581(OA49) ORB 34-0 (BDTH) [VE](VR)
 {492A08} HSTC 581(OA49) ORB 34-0 (BDTH) [VE](VR)

ELEVTR BDFLAP SPDBRK
 4.160 -11.700 25.550
 4.160 0.000 25.550
 4.160 16.300 25.550
 16.750 16.300 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 926.7000 IN.
 YMRP 1081.3800 IN.
 ZMRP .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

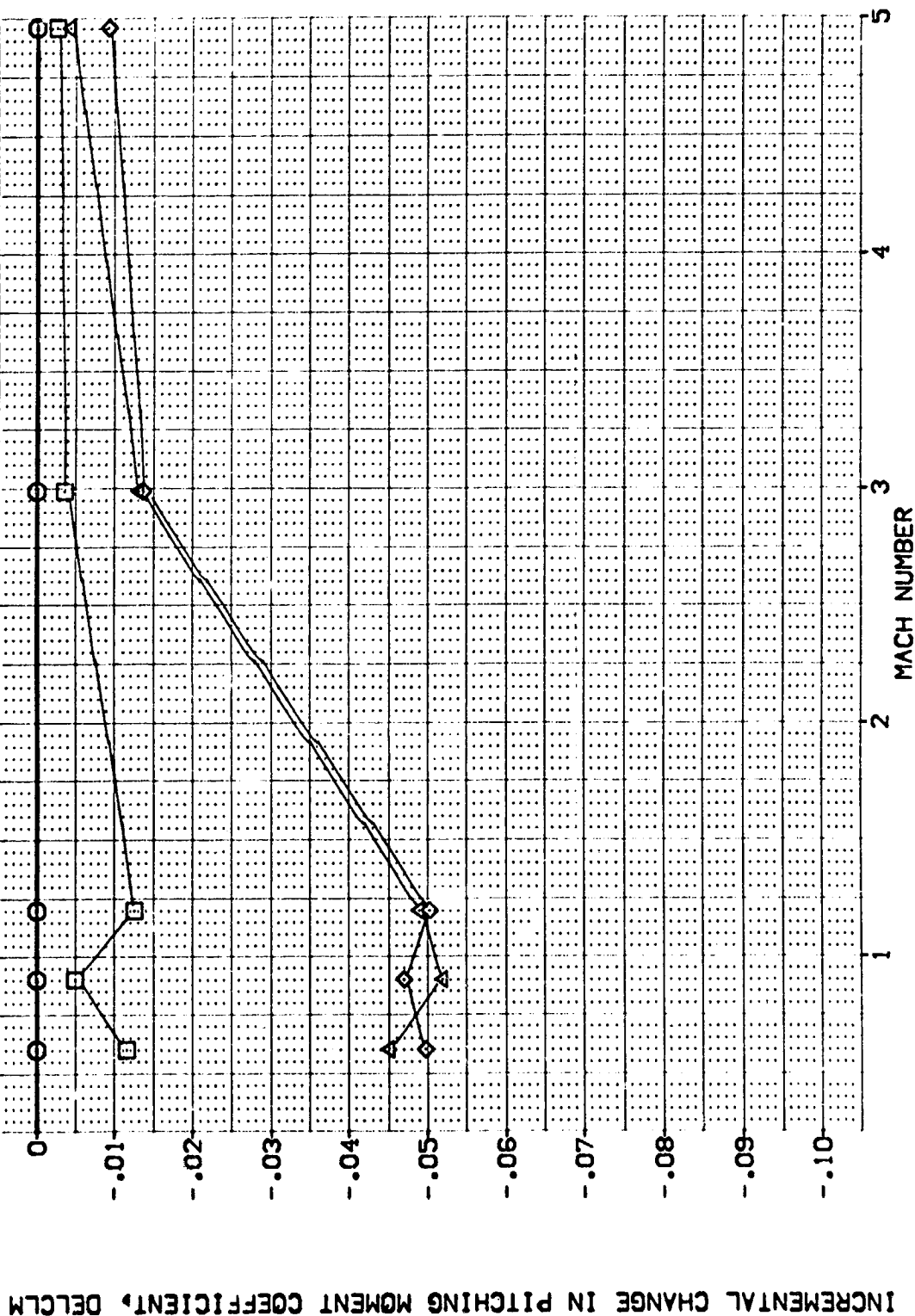
MSFC	SBI(CA4S)	SRB	34-0	(BCFH)	(VE)(VR)
[492A04]					
[492A05]					
[492A06]					
[492A07]					
[492A08]					

ELEVTR BOFLAP SPDBRK

ELEVTR	BOFLAP	SPDBRK
4.160	-11.700	25.550
4.160	16.300	25.550
16.750	16.300	25.550

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XMRP	1081.3500	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0040	

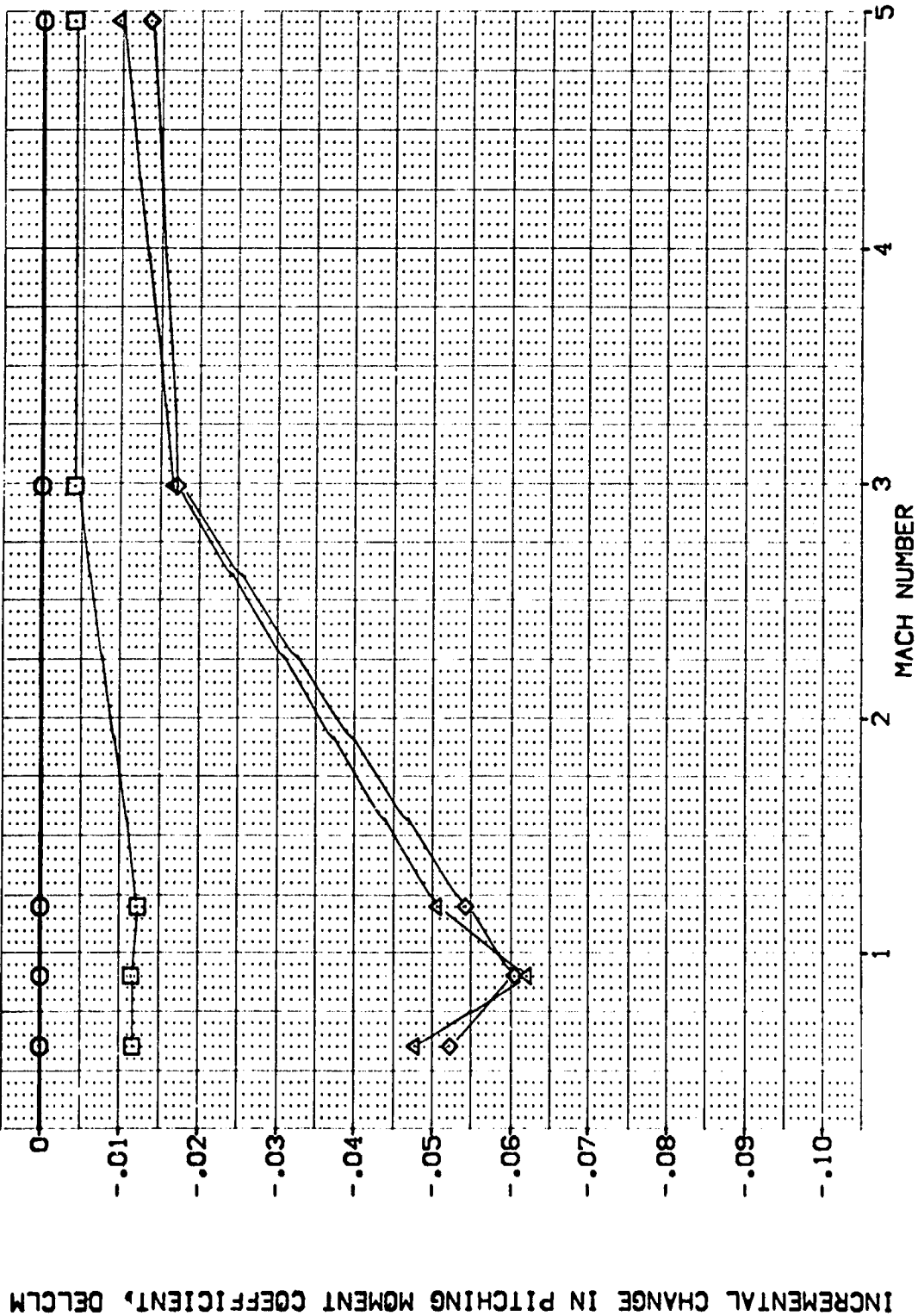


BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(B)ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELEVTR BODY FLAP SPDRK REFERENCE INFORMATION

{492A04}	HSFC S31(DA19) 0R3 34-0 (BODY) (VE)(VR)	4.160	-11.700	25.550	SREF 2741.8000 50. FT
{492A05}	HSFC S31(DA19) 0R3 34-0 (BODY) (VE)(VR)	4.160	0.000	25.550	LREF 481.6480 IN.
{492A07}	HSFC S31(DA19) 0R3 34-0 (BODY) (VE)(VR)	4.160	16.300	25.550	BREF 936.7000 IN.
{492A08}	HSFC S31(DA19) 0R3 34-0 (BODY) (VE)(VR)	16.750	16.300	25.550	XPRP 1081.3900 IN.
					YPRP 0.0000 IN.
					ZPRP 0.0000 IN.
					SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
(C)ALPHA = 10.00

DATA SET SYMBOL: 482A04, 482A06, 482A07, 482A08

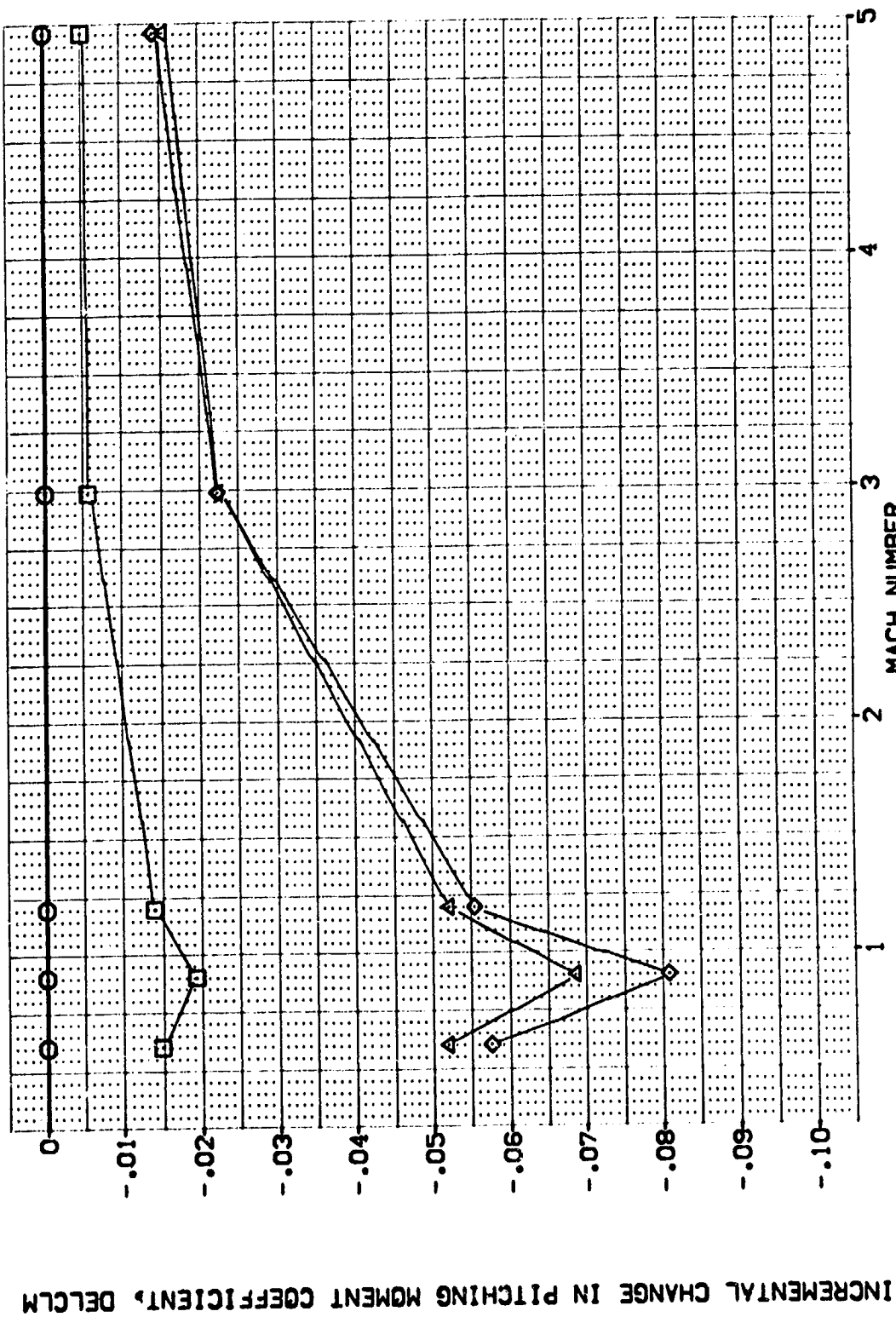
CONFIGURATION DESCRIPTION: MSTC 581(0A49) 088 34-0 (BDH) (VE)(VR), MSTC 581(0A49) 088 34-0 (BDH) (VE)(VR), MSTC 581(0A49) 088 34-0 (BDH) (VE)(VR), MSTC 581(0A49) 088 34-0 (BDH) (VE)(VR)

ELEVTR: 4.160, 4.160, 4.160, 16.750

BDFLAP: -11.700, 0.000, 16.300, 16.300

SPDRBK: 25.550, 25.550, 25.550, 25.550

REFERENCE INFORMATION: SREF 2741.8000 SQ. FT, LREF 481.6480 IN., BREF 936.7000 IN., YARP 1081.3900 IN., ZARP .0000 IN., SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(D) ALPHA = 15.00

DATA SET SYMB. CONFIGURATION DESCRIPTION

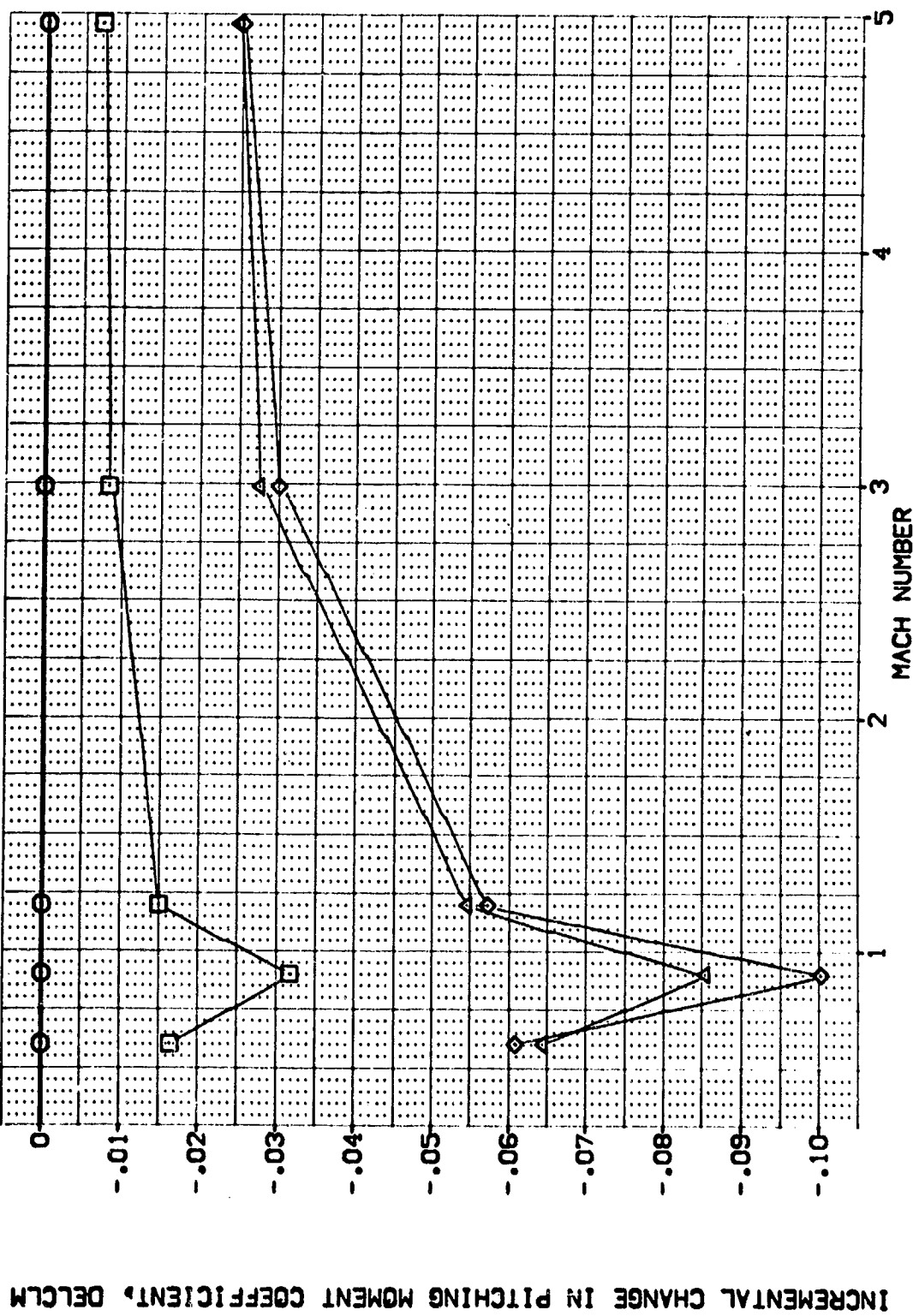
{452A04}	REFC 581(0A45) DBB 34-0 (BOTH)	{VE}{VR}
{452A05}	REFC 581(0A45) DBB 34-0 (BOTH)	{VE}{VR}
{452A06}	REFC 581(0A45) DBB 34-0 (BOTH)	{VE}{VR}
{452A07}	REFC 581(0A45) DBB 34-0 (BOTH)	{VE}{VR}
{452A08}	REFC 581(0A45) DBB 34-0 (BOTH)	{VE}{VR}

ELEVTR BDCLAP SPOBRK

4.150	-11.700	25.350
4.150	0.000	25.350
4.150	16.300	25.350
16.750	16.300	25.350

REFERENCE INFORMATION

SRF	2741.8000	92. FT
LRF	491.6400	IN.
BRF	535.7000	IN.
YPRP	1091.2000	IN.
ZPRP	0.0000	IN.
SCALE	0.0040	



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(E) ALPHA = 20.00

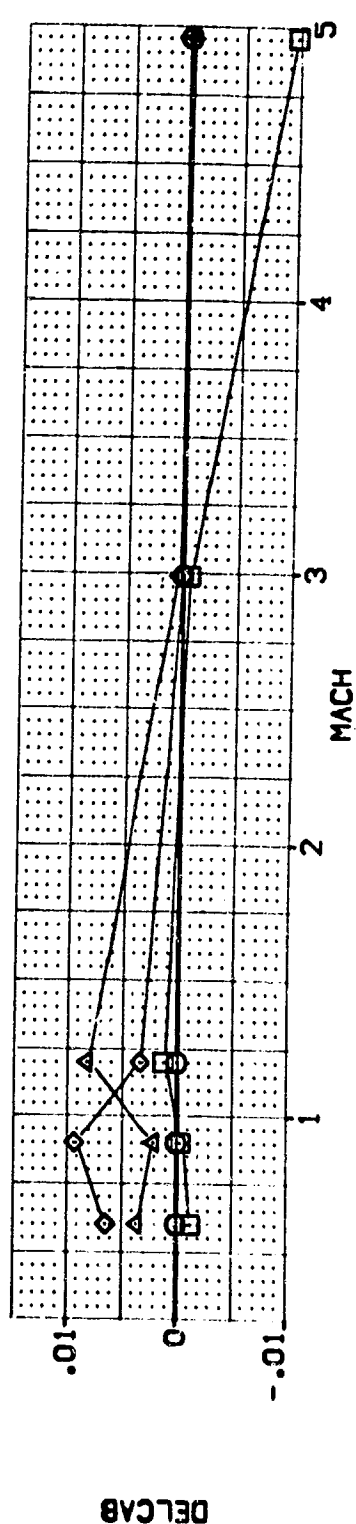
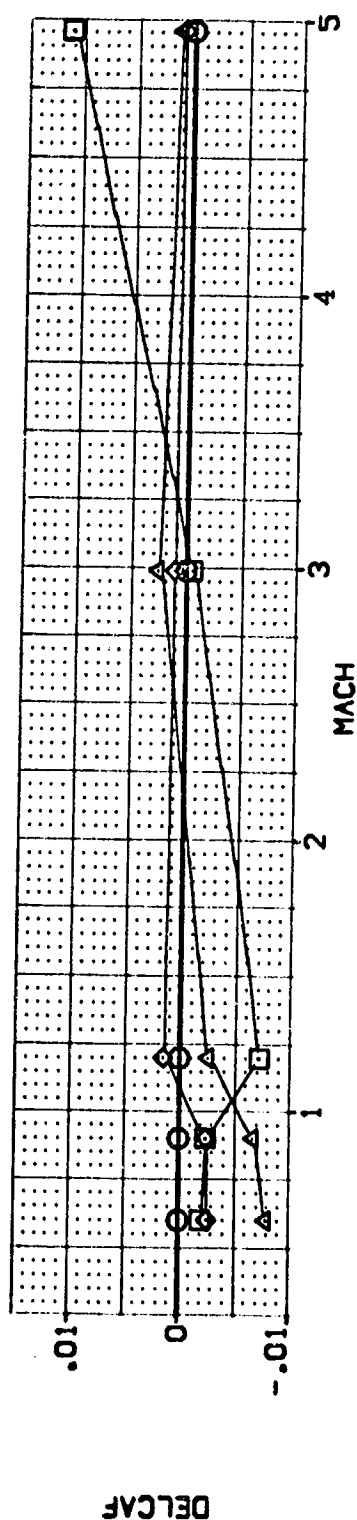
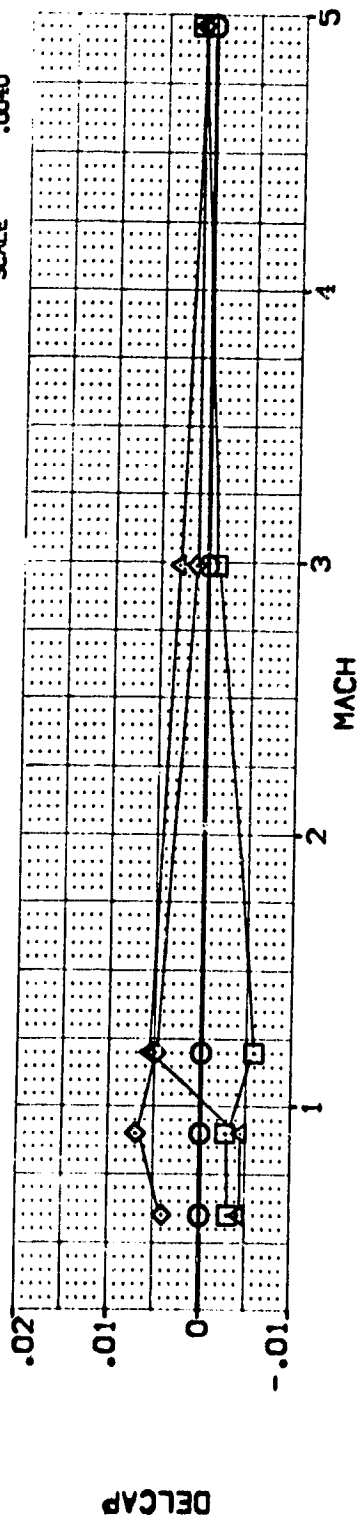
DATA SET SYMBOL

{ 492A04 }
{ 492A06 }
{ 492A07 }
{ 492A08 }

MSFC 581(0A49) DB 34-0 (BDFM) (VE)(VR)
MSFC 581(0A49) DB 34-0 (BDFM) (VE)(VR)
MSFC 581(0A49) DB 34-0 (BDFM) (VE)(VR)
MSFC 581(0A49) DB 34-0 (BDFM) (VE)(VR)

ELEVTR BDFLAP SPOBRK
4.160 -11.700 25.550
4.160 0.000 25.550
4.160 16.300 25.550
16.750 16.300 25.550

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.5480 IN.
BREF 936.7000 IN.
XMRP 1081.3500 IN.
YMRP 0.0000 IN.
ZMRP 0.0000 IN.
SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(ALPHA) = .00

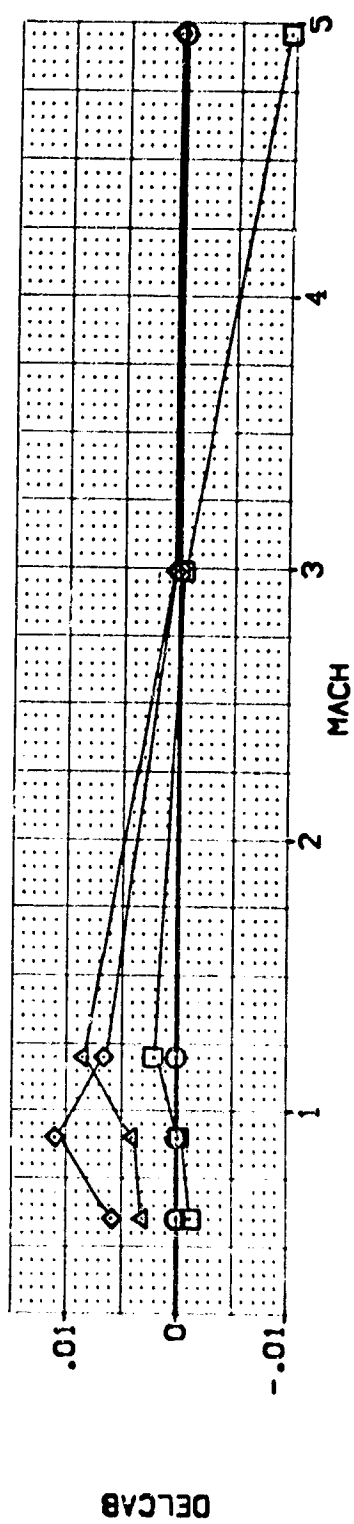
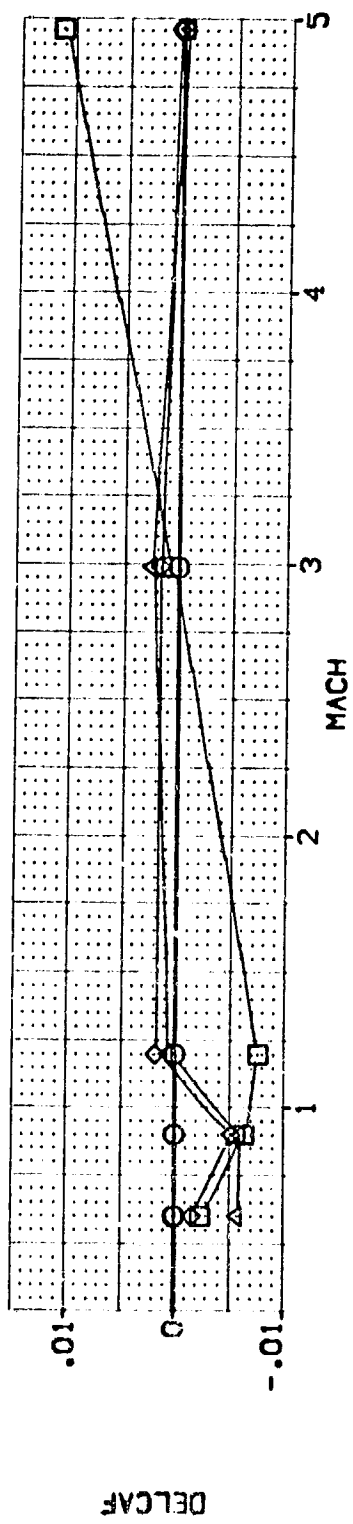
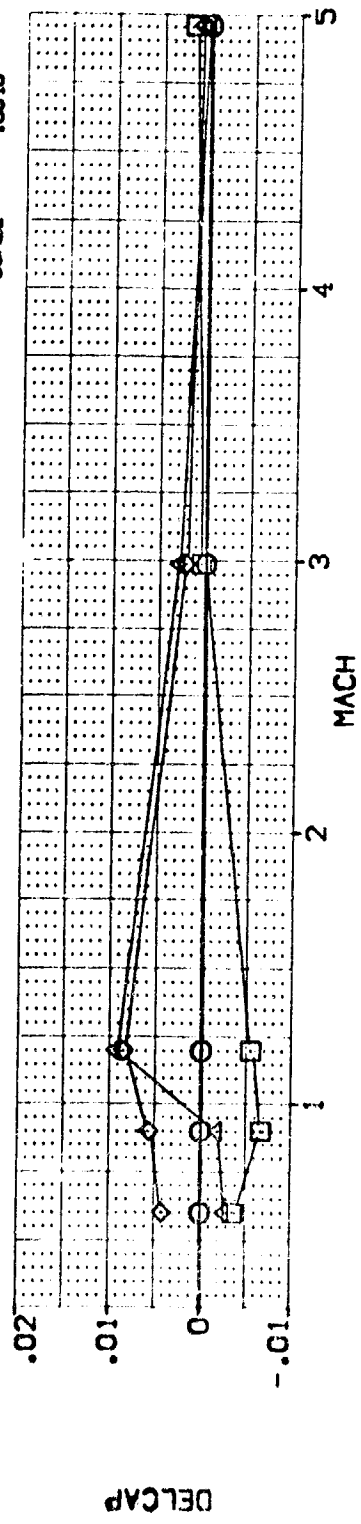


DATA SET SYMBOL

CONFIGURATION DESCRIPTION

ELEVTR BDFLAP SPOBRK

REFERENCE INFORMATION



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

(B) ALPHA = 5.00

DATA SET SYMBO. CONFIGURATION DESCRIPTION

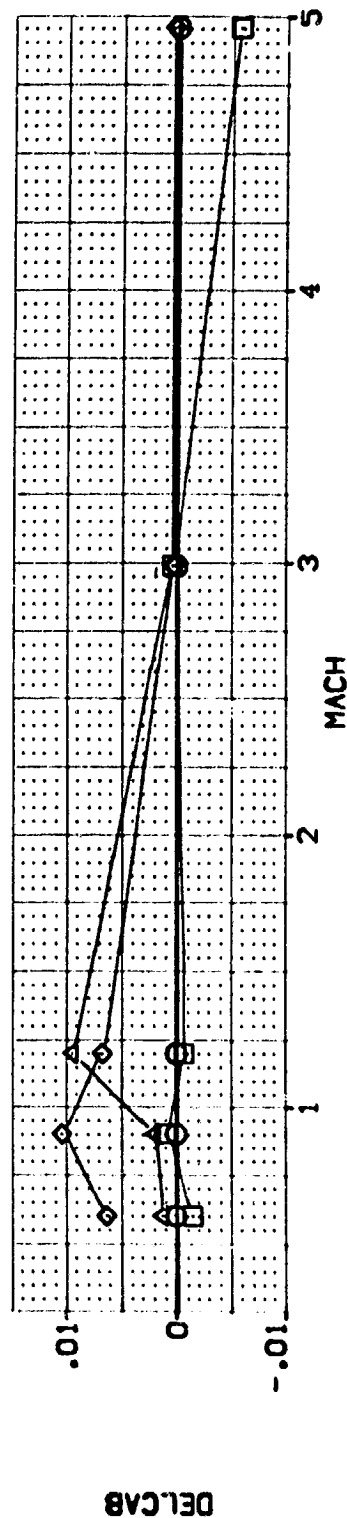
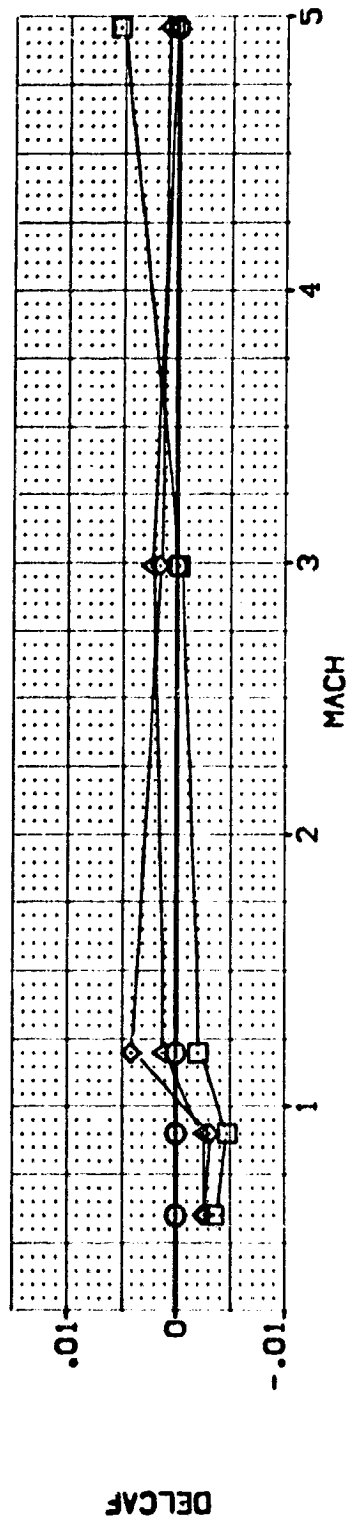
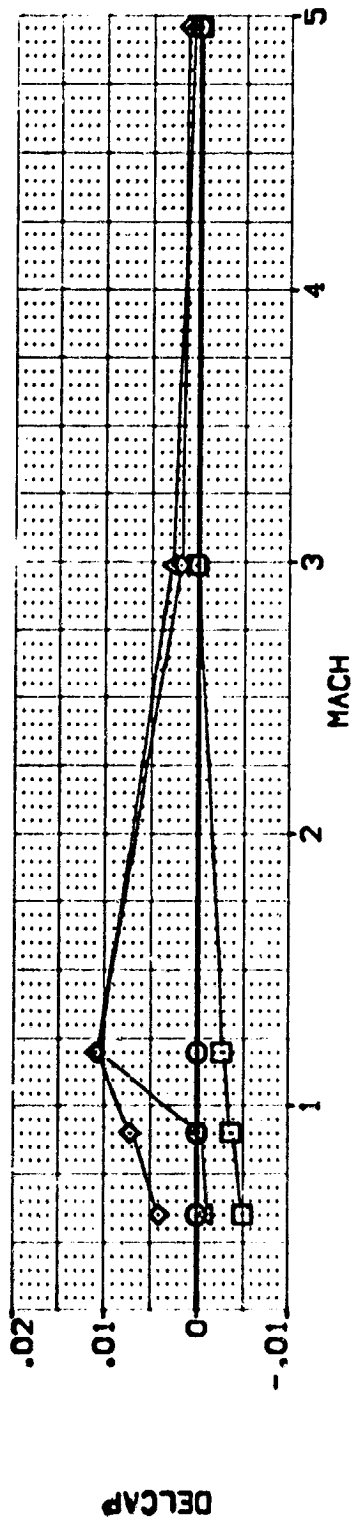
SYMBOL	DESCRIPTION
Q	MSFC 591(0A45) DB 34-0 (BDFN) (VE)(VR)
X	MSFC 591(0A45) DB 34-0 (BDFN) (VE)(VR)
	MSFC 591(0A45) DB 34-0 (BDFN) (VE)(VR)
	MSFC 591(0A45) DB 34-0 (BDFN) (VE)(VR)

ELEVTR BDFLAP SPDRBK

ELEVTR	BDFLAP	SPDRBK
4.160	-11.700	25.550
4.160	.000	25.550
16.750	16.300	25.550
16.750	16.300	25.550

REFERENCE INFORMATION

UNIT	VALUE	UNIT
REF	2741.8000	IN.
REF	481.6480	IN.
REF	936.7000	IN.
REF	1081.3500	IN.
REF	.0000	IN.
REF	.0040	IN.



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

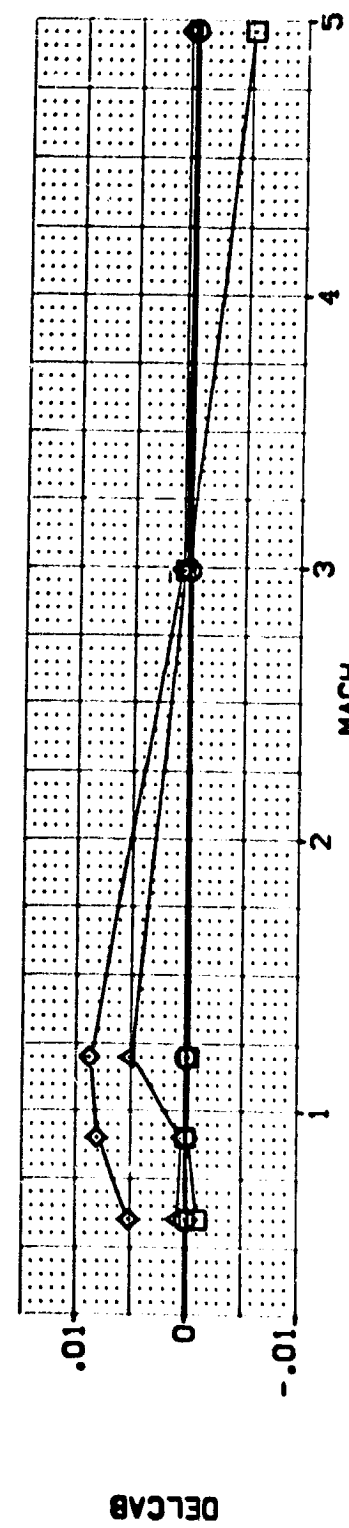
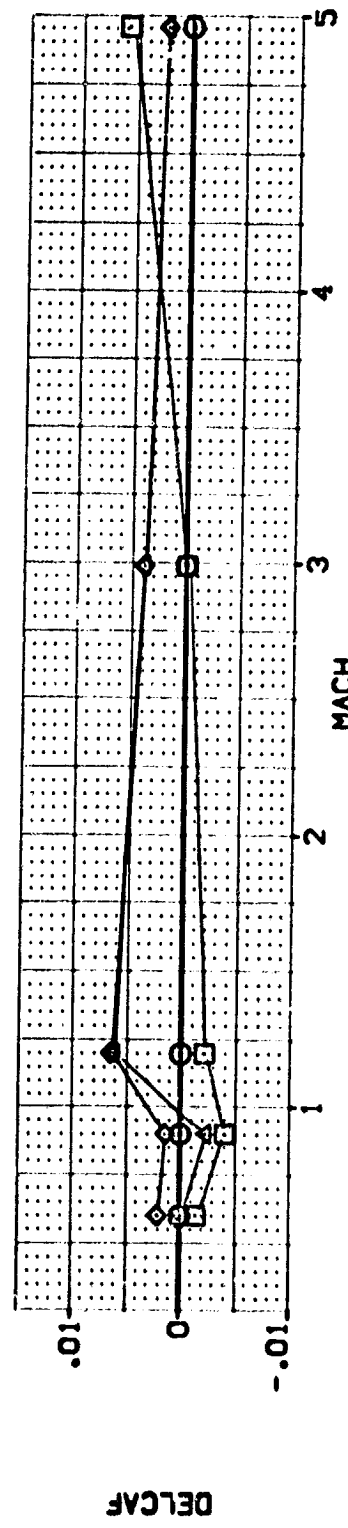
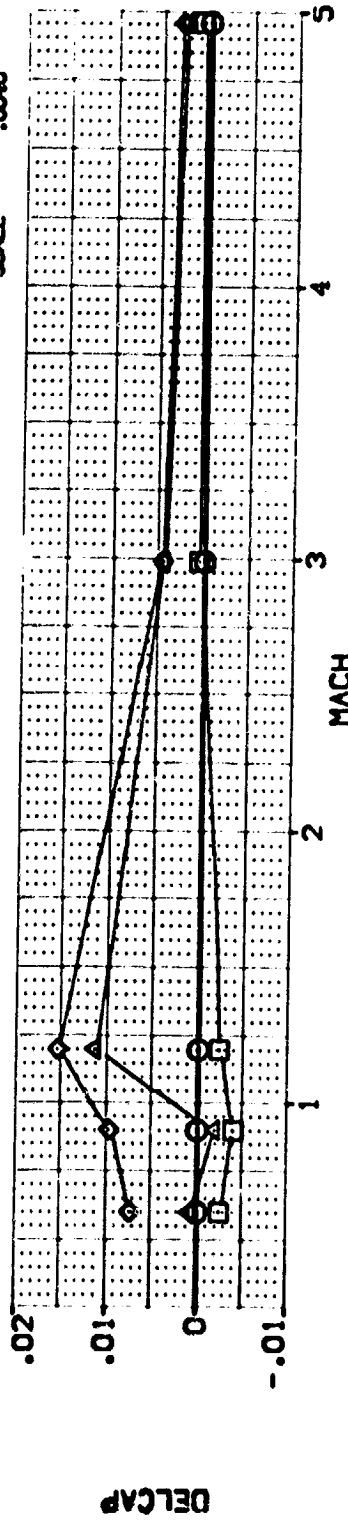
(C)ALPHA = 10.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVTR	BDFLAP	SPDRK
(452A04)	HSFC 531 (GA43) 078 34-0 (BDH) (VE)(VR)	4.160	-11.700	25.500
(452A05)	HSFC 531 (GA43) 078 34-0 (BDH) (VE)(VR)	4.160	0.000	25.500
(452A07)	HSFC 531 (GA43) 078 34-0 (BDH) (VE)(VR)	4.160	16.300	25.500
(452A08)	HSFC 531 (GA43) 078 34-0 (BDH) (VE)(VR)	16.750	16.300	25.500

REFERENCE INFORMATION

REF	IN	IN	IN	IN
SRF	2741.8000	50.000		
LRF	481.6480	10.000		
BRF	506.7000	10.000		
YRP	1081.3000	10.000		
ZRP	0.0000	10.000		
SCALE	0.0040			



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
 (D) ALPHA = 15.00

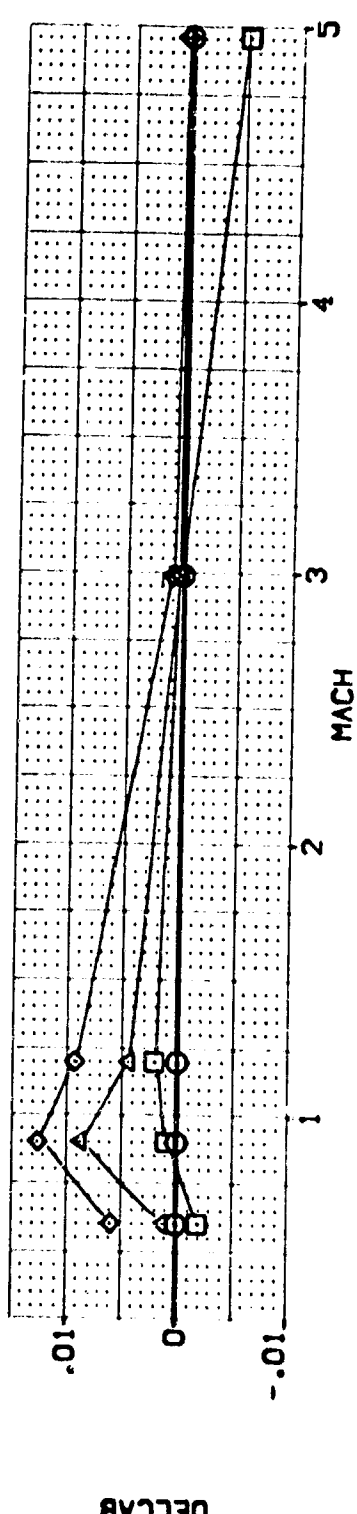
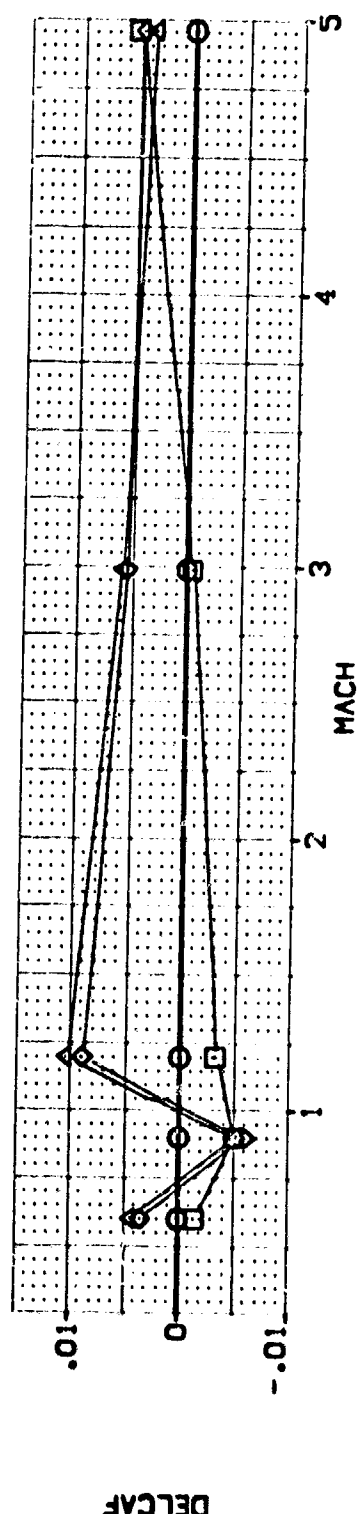
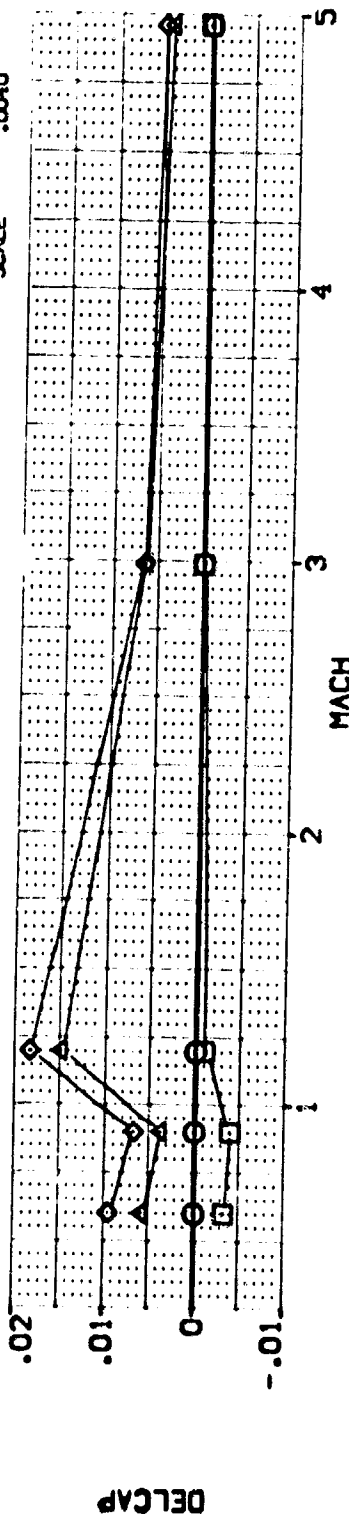
DATA SET SYMBOL

CONFIGURATION DESCRIPTION

MSFC 581(BA19) DB 34-0 (BDTH) (VE)(VR)
 MSFC 581(BA19) DB 34-0 (BDTH) (VE)(VR)
 MSFC 581(BA19) DB 34-0 (BDTH) (VE)(VR)
 MSFC 581(BA19) DB 34-0 (BDTH) (VE)(VR)

ELEVTR BDFLAP SPDBRK
 4.160 -11.700 25.550
 4.160 0.000 25.550
 16.750 16.300 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XMRP 1081.3900 IN.
 YMRP 0.0000 IN.
 ZMRP 0.0000 IN.
 SCALE 0.0010



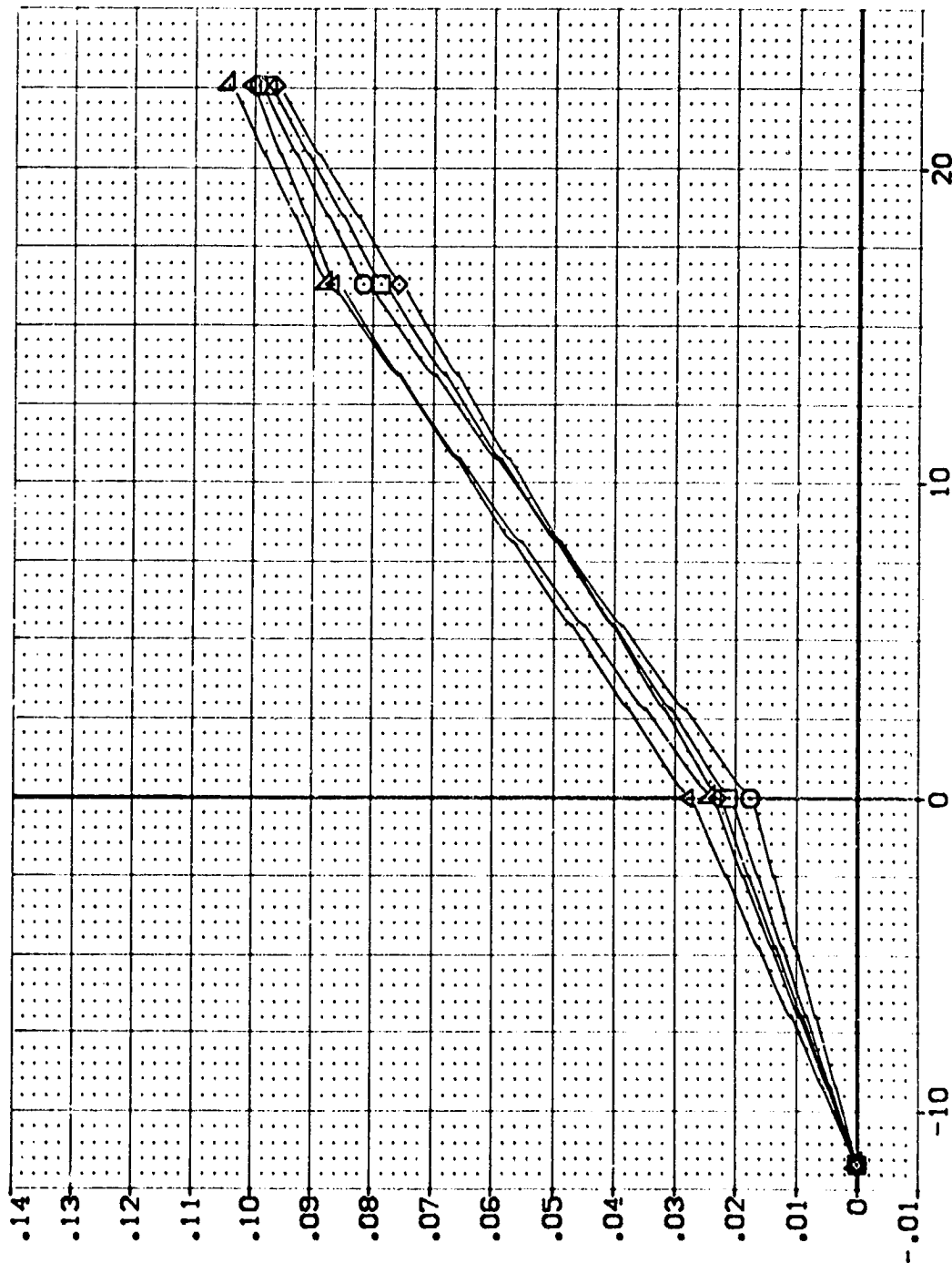
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)
 (E)ALPHA = 20.00



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL
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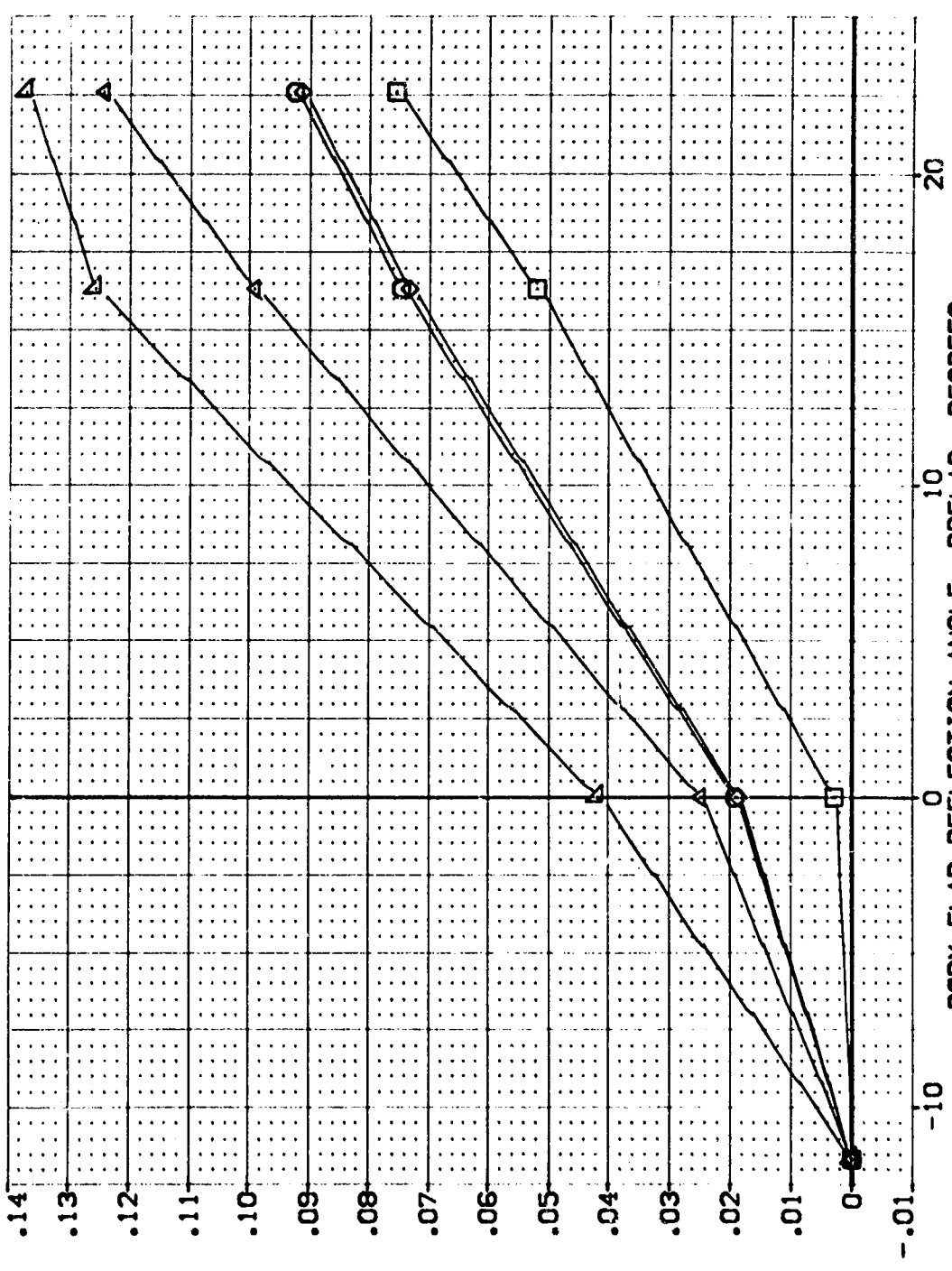
ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	BOFLAP	REFERENCE INFORMATION	SCALE
.000	.500	ELEVTR	4.160	492004	.000	SREF	2741.8000
5.000	5.000	AILRON	-6.670	492004	.000	LREF	181.6480
10.000	.000	RUDER	.000	492007	22.600	BREF	536.7000
15.000	1.000					XREF	1081.3500
20.000						YREF	.0000
						ZREF	.0000
							.0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA CL

BODY FLAP DEFLECTION ANGLE, BOFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

PARAMETRIC VALUES			DATA SOURCE			REFERENCE INFORMATION		
ALPHA	MACH	ELEVTR	4.160	DATASET	BDFLAP	SREF	2741.8000	SO. FT
.000	.500	.500	-.670	492004	.000	LREF	481.6450	IN.
5.000	SPDRK	25.550	.000	492007	22.600	BREF	936.7000	IN.
10.000	BETA	.000				XREF	1081.3800	IN.
15.000	CONF16	1.000				YREF	.0000	IN.
20.000						ZREF	.0000	IN.
						SCALE	.0040	



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

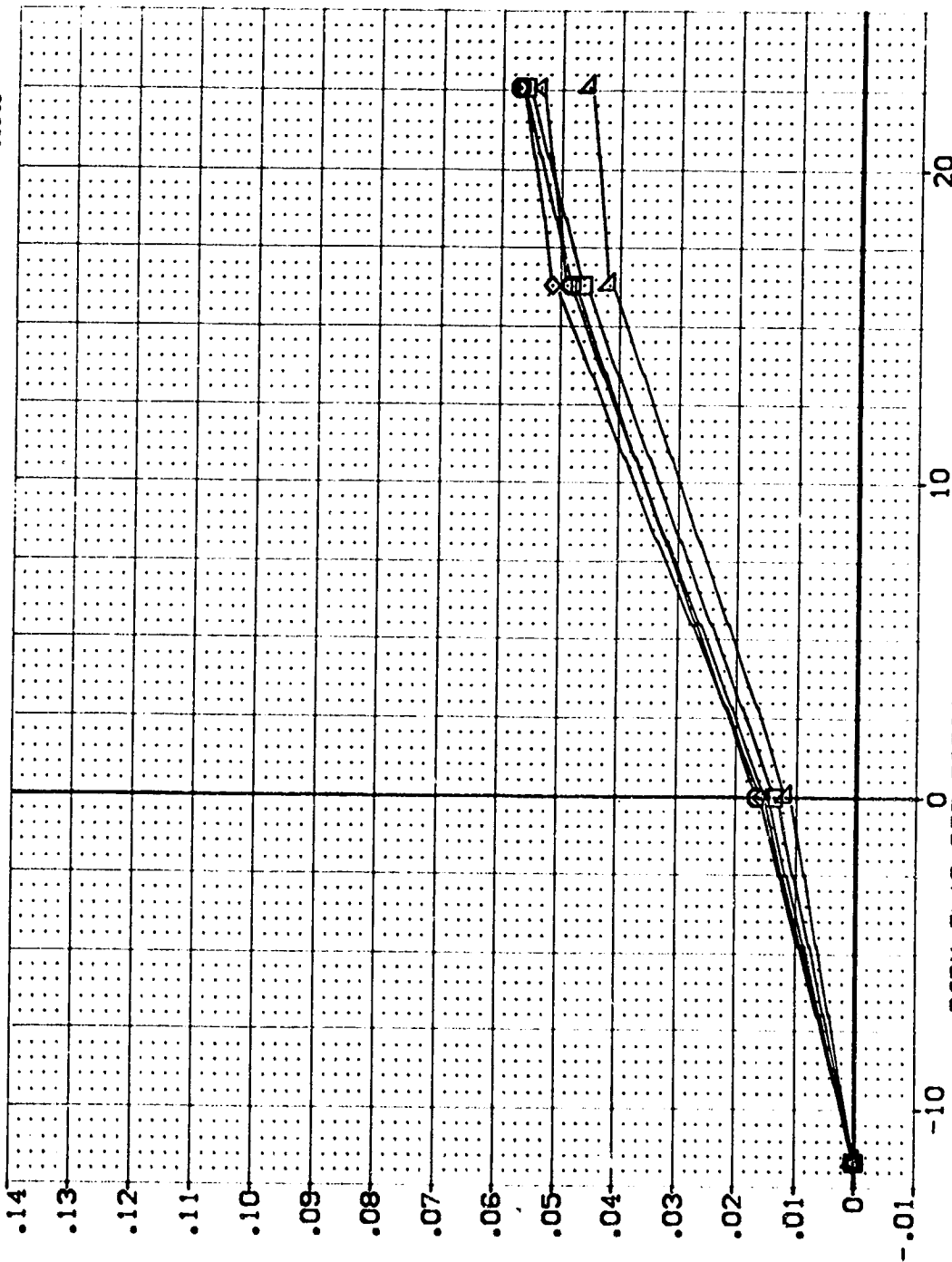
BODY FLAP DEFLECTION ANGLE, BDFLAP, DEGREES
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL
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PARAMETRIC VALUES			DATA SOURCE		REFERENCE INFORMATION		
ALPHA	MACH	ELEVTR	4.160	BOFLAP	SREF	2741.8000	SQ. FT
.000	1.200	AILRON	-.670	492004	LREF	481.6480	IN.
5.000	25.550	RUDER	.000	492007	BREF	938.7000	IN.
10.000	.000		.000		XREF	1081.3500	IN.
15.000	1.200				YREF	.0000	IN.
20.000					ZREF	.0000	IN.
					SCALE	.0040	



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

BOFLAP DEFLECTION ANGLE, BOFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

SYMBOL
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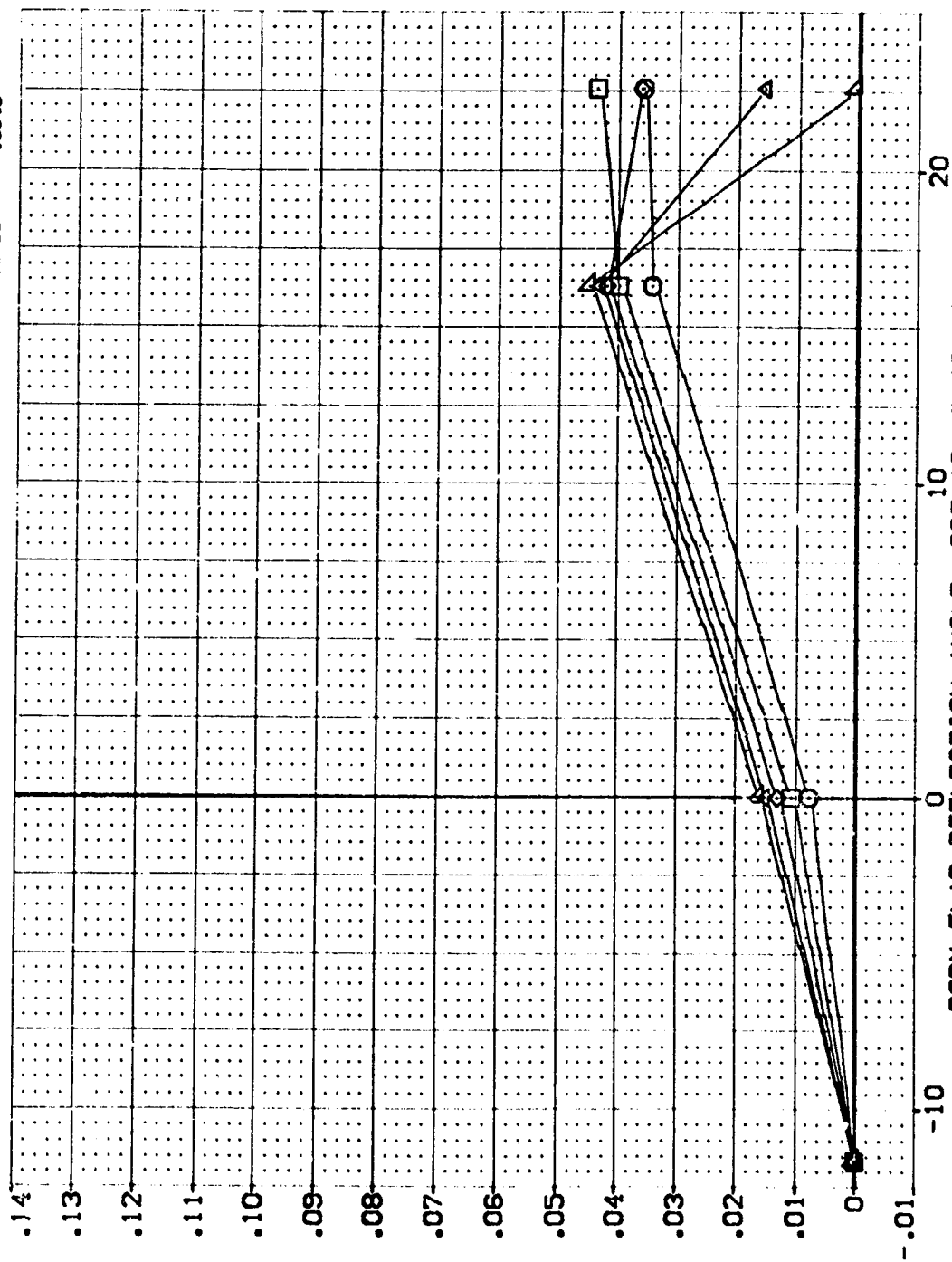
ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 1.450
 SPORBK 25.550
 BETA .000
 CONF16 1.000

DATA SOURCE
 4.160 DATASET
 -670 492004
 .000 492007

BOFLAP
 22.600

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 SREF 936.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

BODY FLAP DEFLECTION ANGLE, BOFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

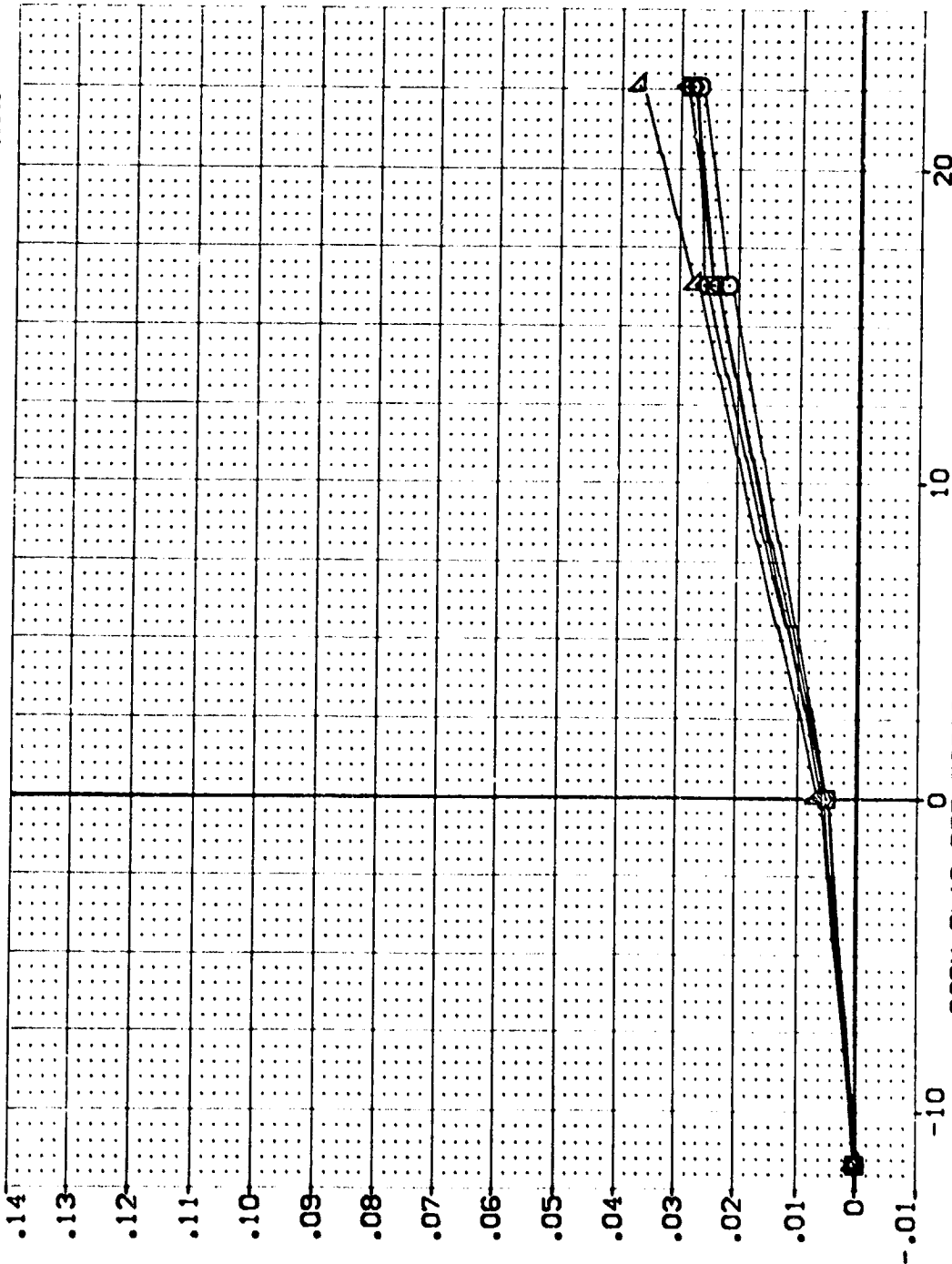


MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL
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PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION			
ALPHA	MACH	1.950	ELEVTR	4.160	BOFLAP	2741.8000	50. FT
.000	SPOBRK	25.550	AILRON	-11.700	BOFLAP	481.6480	IN.
5.000	BETA	.000	RUDDER	.000	BOFLAP	536.7000	IN.
10.000	CONFIG	1.000			BOFLAP	1081.3500	IN.
15.000					BOFLAP	.0000	IN.
20.000					BOFLAP	.0040	IN.

INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA CL



BODY FLAP DEFLECTION ANGLE, BOFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

SYMBOL
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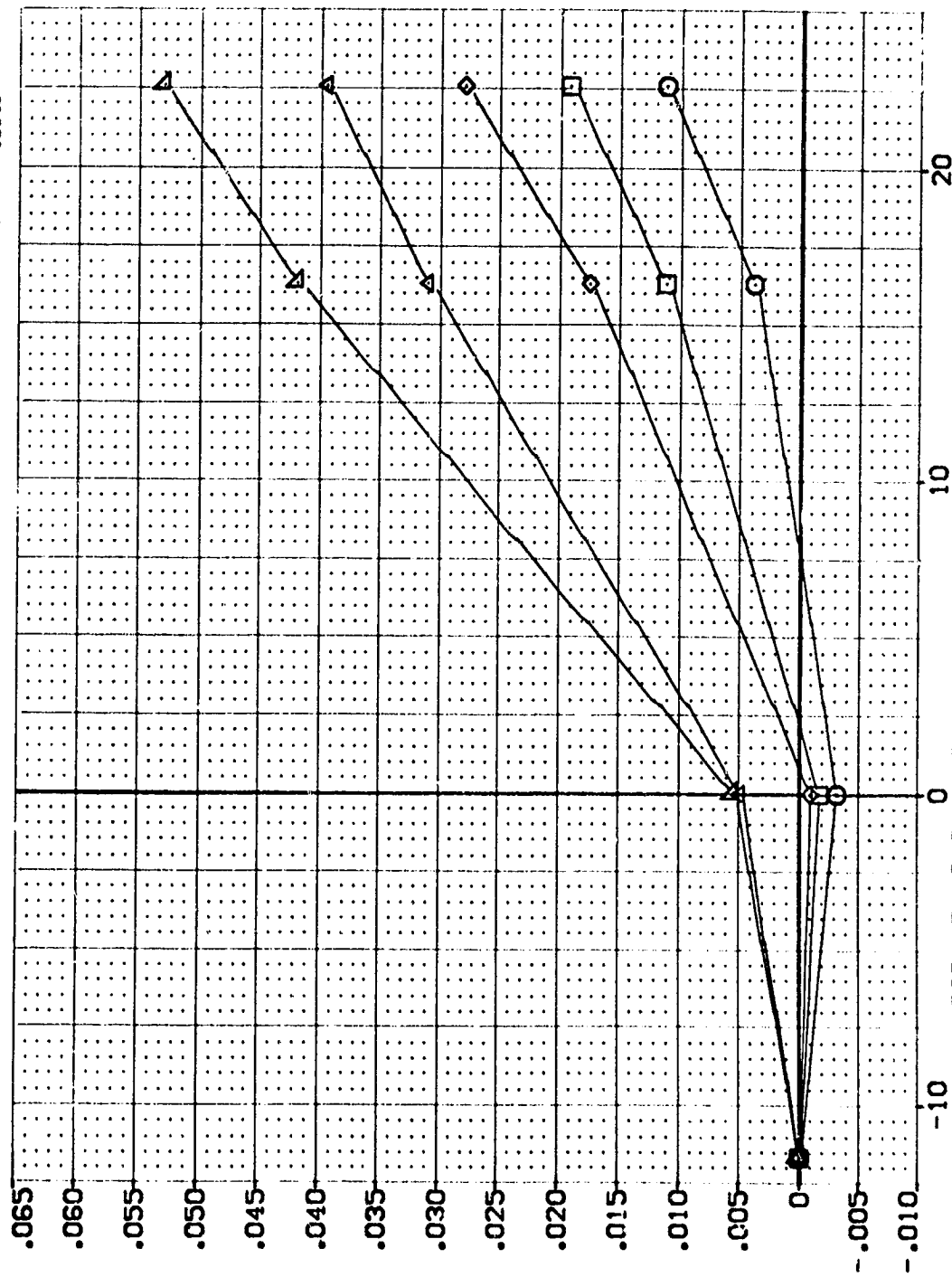
ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH .600
 SPOBRK 25.550
 BETA .000
 CONF10 1.000

ELEVTR
 AIRCRN
 RUDDER

LATA SOURCE
 BDFLAP
 DATASET
 -570 492004
 .000 492007

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3900 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELTA CD

BODY FLAP DEFLECTION ANGLE, BDFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)



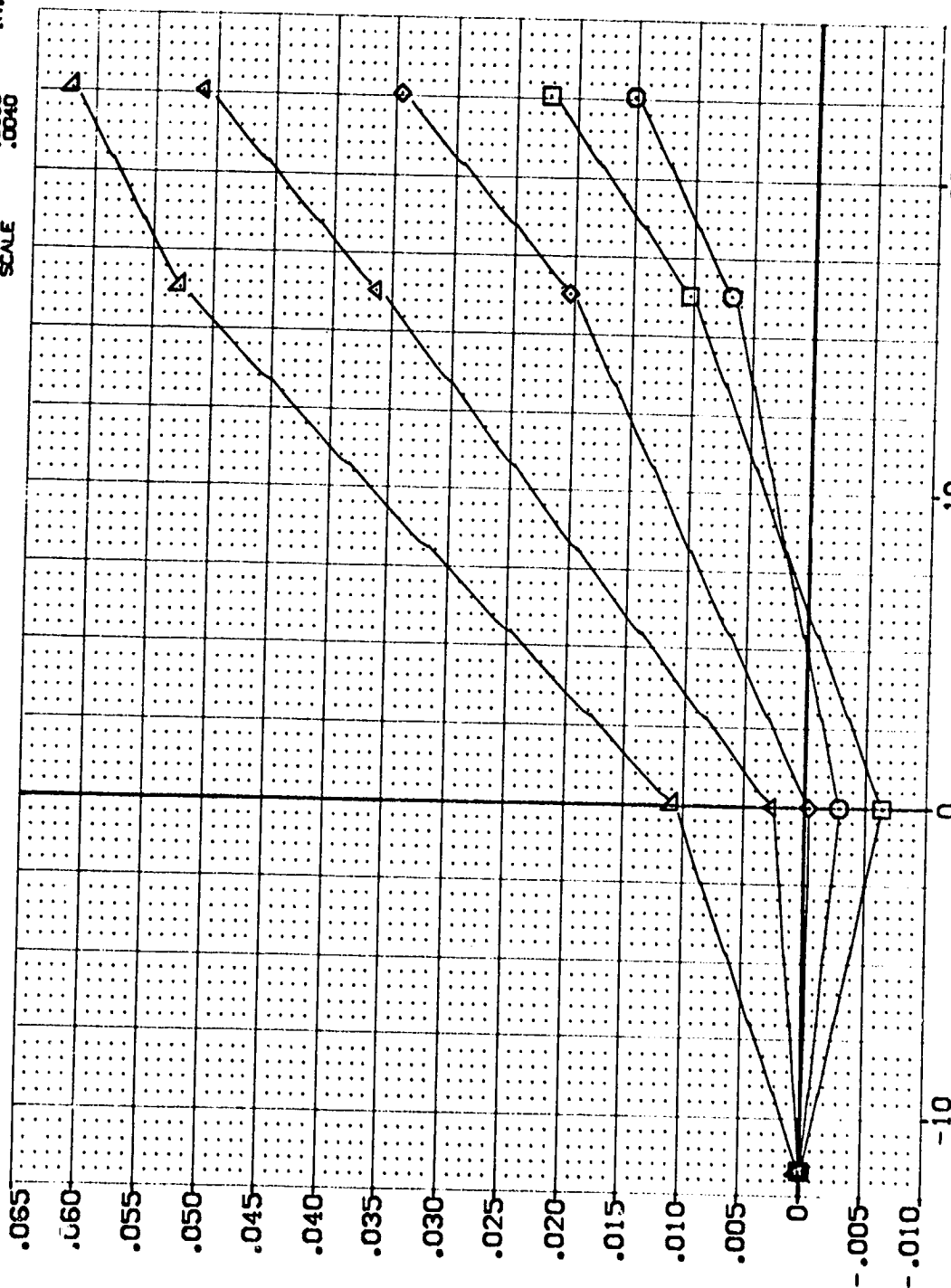
MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL
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PARAMETRIC VALUES
 ALPHA MACH SPDRK BETA CNF1G
 .000 .900 25.550 .000 1.000
 5.000 10.000 15.000 20.000

DATA SOURCE
 DATASET BDFLAP
 4.160 -11.700
 -.670 16.300
 .000 492007

REFERENCE INFORMATION
 SREF 2741.6000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XREF 1081.3900 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

BODY FLAP DEFLECTION ANGLE, BDFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

SYMBOLS
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ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 1.200
 SUEX 25.550
 BETA .000
 CONF 1.000

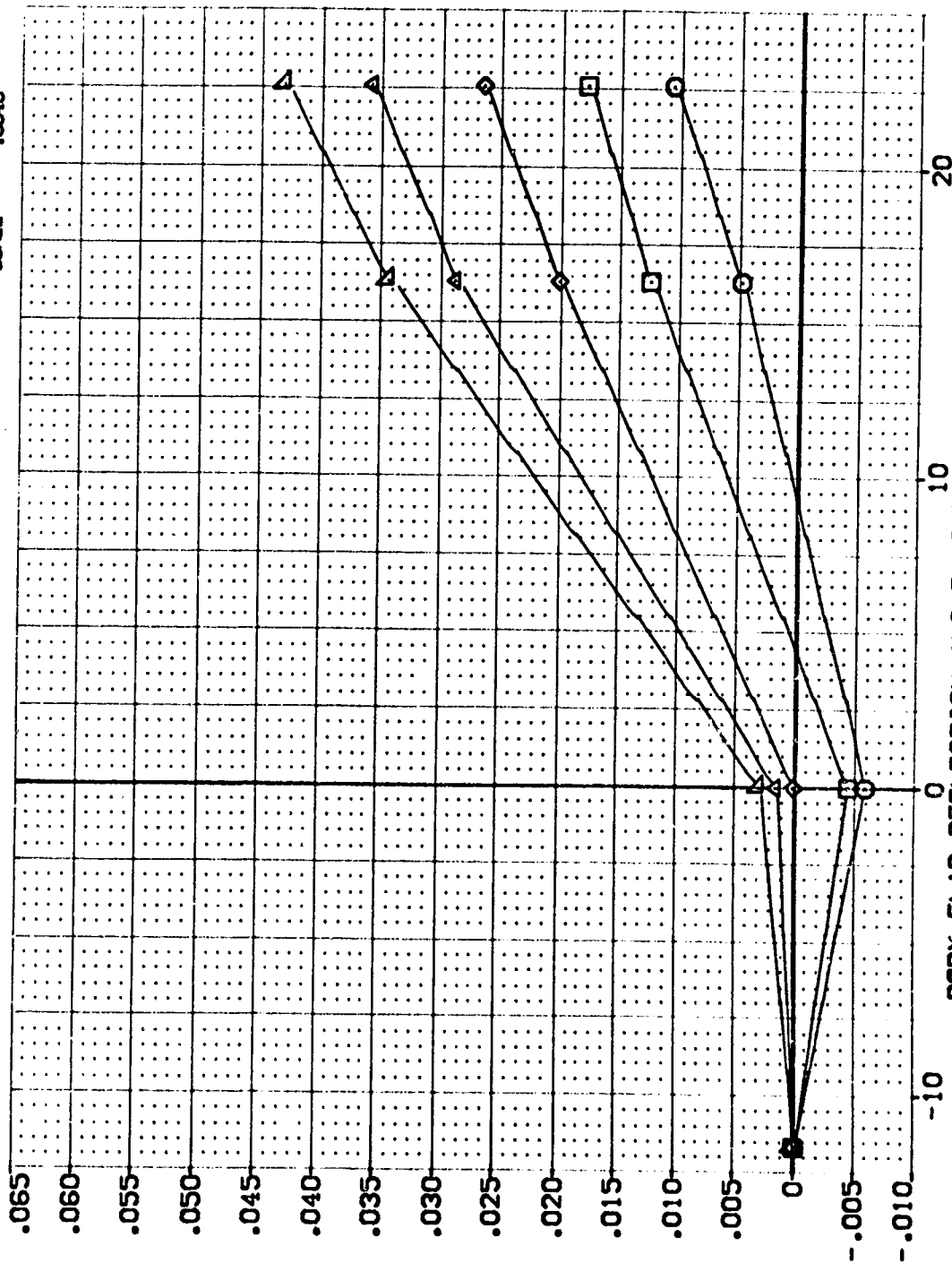
ELEVTR
 AILRON
 RUDDER

DATA SOURCE
 4.160
 -.670
 .000

DATASET
 492004
 492007

BDFLAP
 -11.700
 16.300

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELTA CD

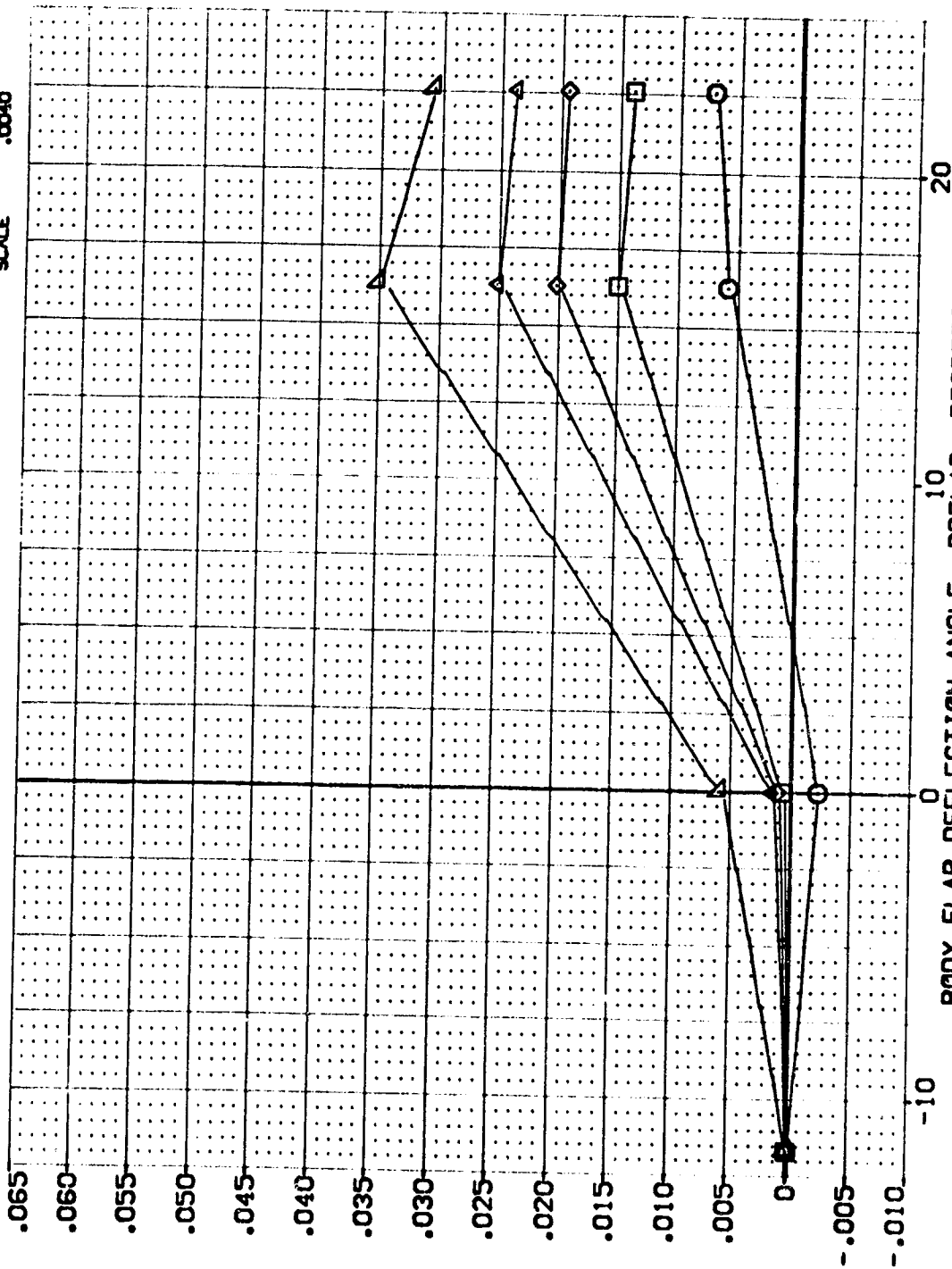
BODY FLAP DEFLECTION ANGLE, BDFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL
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PARAMETRIC VALUES
 MACH 1.450 ELEVTR 4.160 DATASET BDFLAP DATA SOURCE
 SPDRK 5.000 25.550 AILRON -11.700 492004 -11.700
 BETA 10.000 .000 RUDDER .000 492007 16.300
 CNFIG 15.000 1.000 20.000

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

BODY FLAP DEFLECTION ANGLE, BDFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

SYMBOL
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ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 1.960
 SPEED 25.550
 BETA .000
 CONFID 1.000

ELEVTR
 ALLROH
 RUDDER

DATA SOURCE
 BDFLAP
 -11.700
 16.300

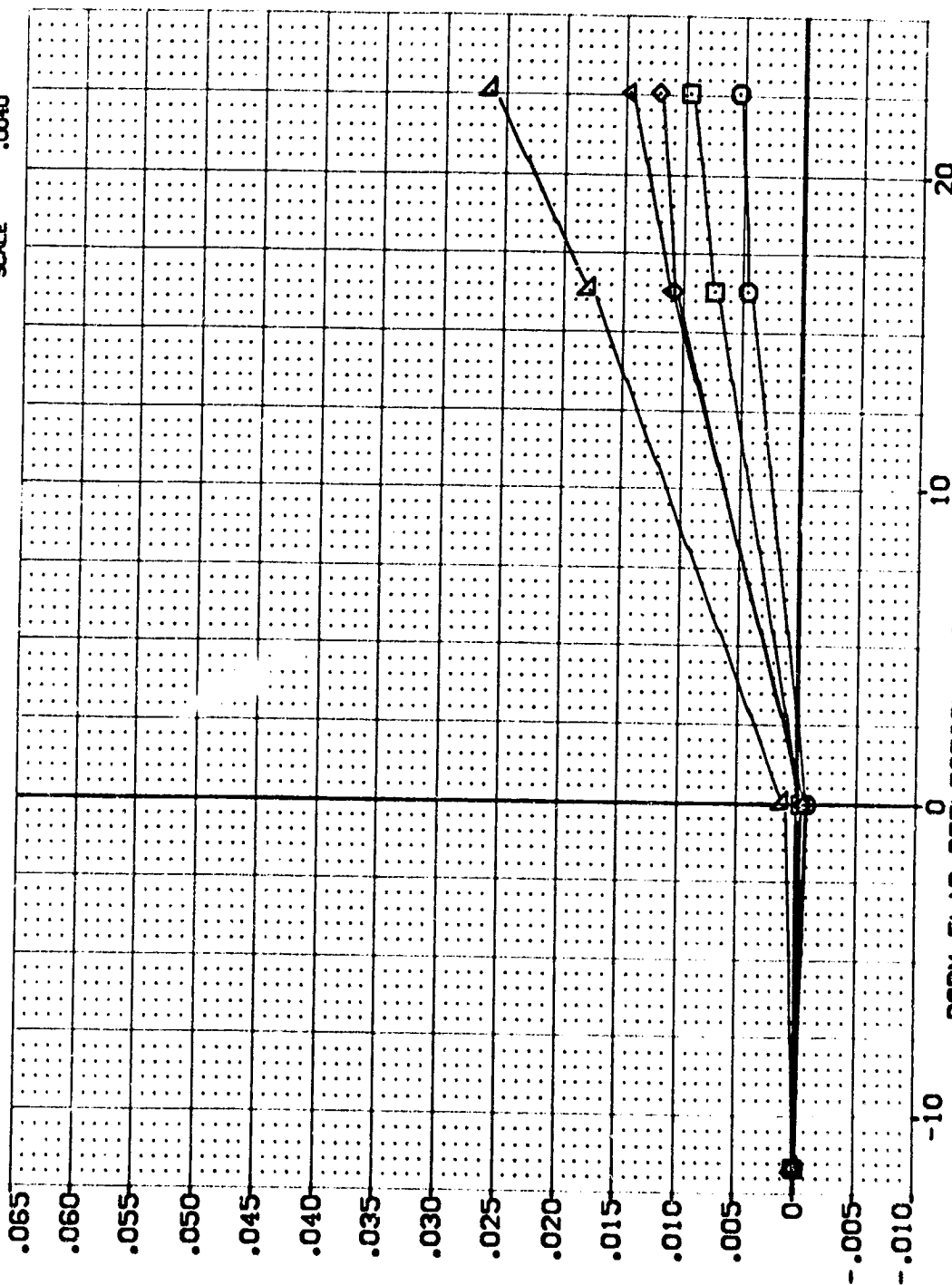
4.160
 -0.670
 .000

DATASET
 492004
 492007

50FLAP
 .000
 22.600

SRFF
 LREF
 BREF
 XREF
 YREF
 ZREF
 SCALE

REFERENCE INFORMATION
 2741.8000 SQ. FT
 481.6460 IN.
 536.7000 IN.
 1081.3500 IN.
 .0000 IN.
 .0000 IN.
 .0040 IN.



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

BODY FLAP DEFLECTION ANGLE, BDFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL
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ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

MACH
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVTR
 25.550
 AILTRON
 .000
 RUDDER
 1.000

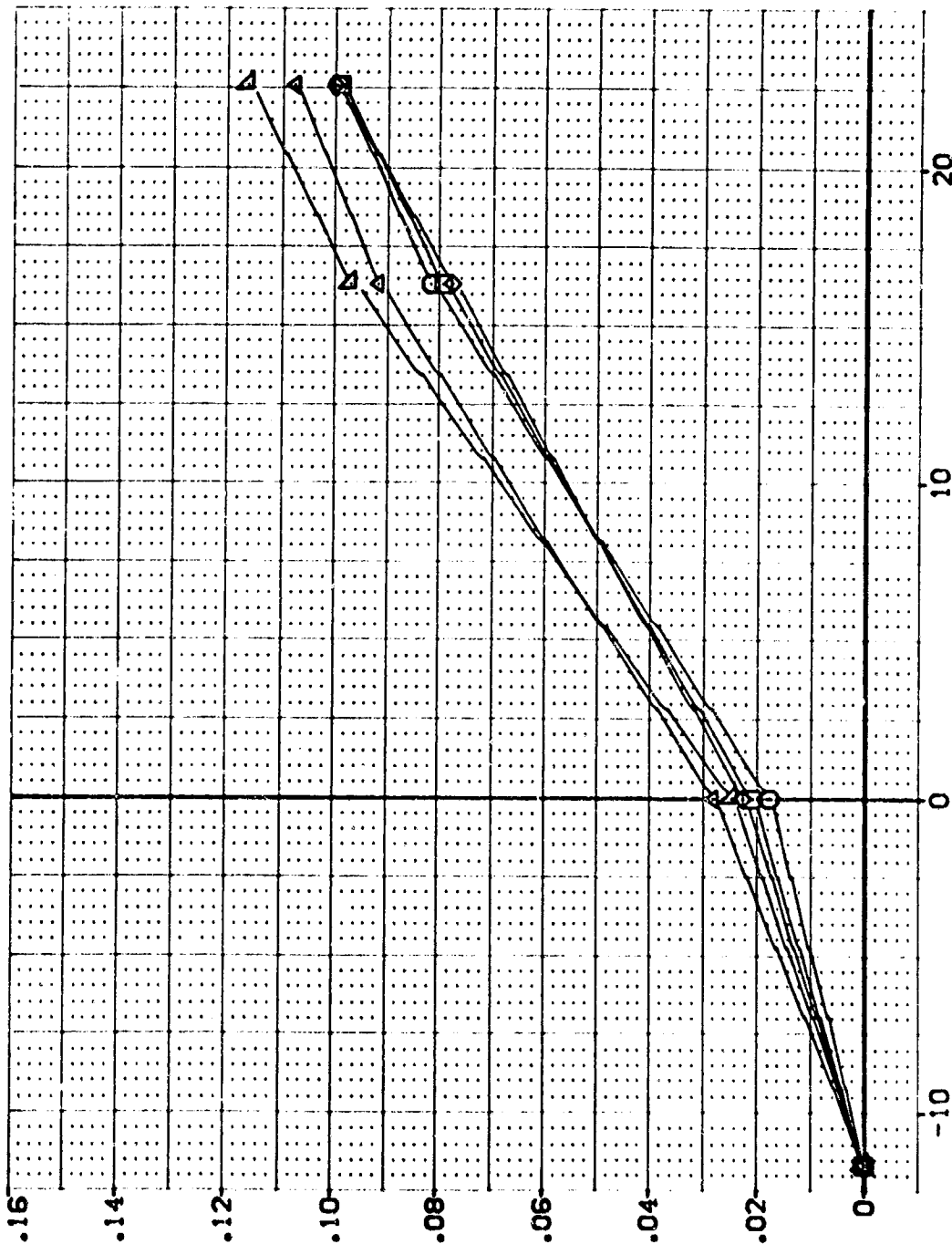
DATA SOURCE
 BDFLAP
 -11.700
 16.300

DATASET
 4.160
 492004
 492007

REFLAP
 .000
 22.600

REFERENCE INFORMATION
 SQ. FT
 2741.8000
 461.6480
 536.7000
 1081.3500
 .0000
 .0000
 .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



SYMBOL
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ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

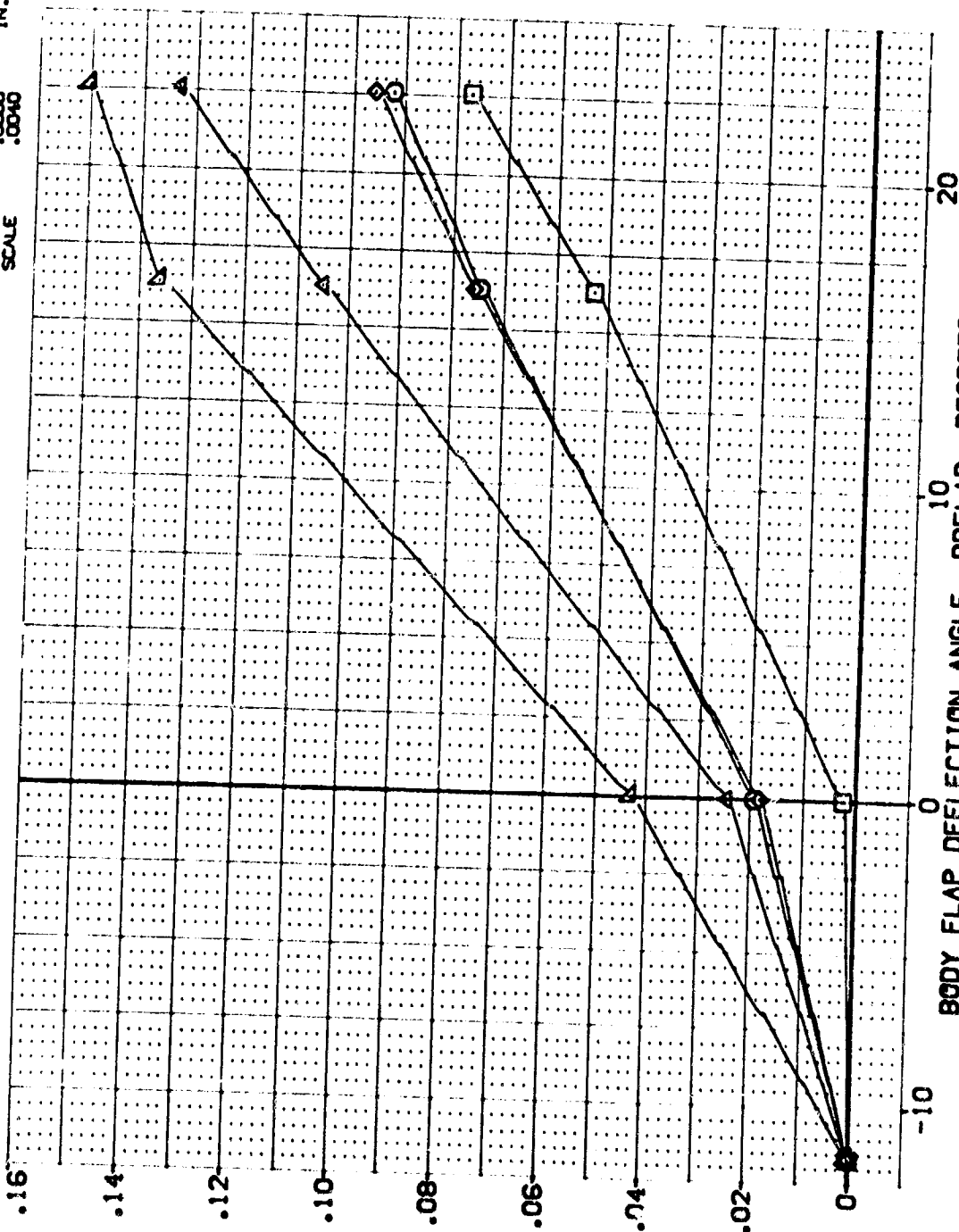
PARAMETRIC VALUES
 MACH
 SPEED
 BETA
 CONFID

DATA SOURCE
 DATASET
 4.160
 492004
 492007

BOFLAP
 .000
 22.600

REFERENCE INFORMATION
 SREF
 2741.8000
 LREF
 481.6480
 BREF
 936.7000
 XREF
 1081.3500
 YREF
 .0000
 ZREF
 .0000
 SCALE
 .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELTA C_N



BODY FLAP DEFLECTION ANGLE, BOFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL
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ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 1.450
 SPDRK 25.550
 BETA .000
 CONFIG 1.000

ELEVTR
 ALLRON
 RUDDER

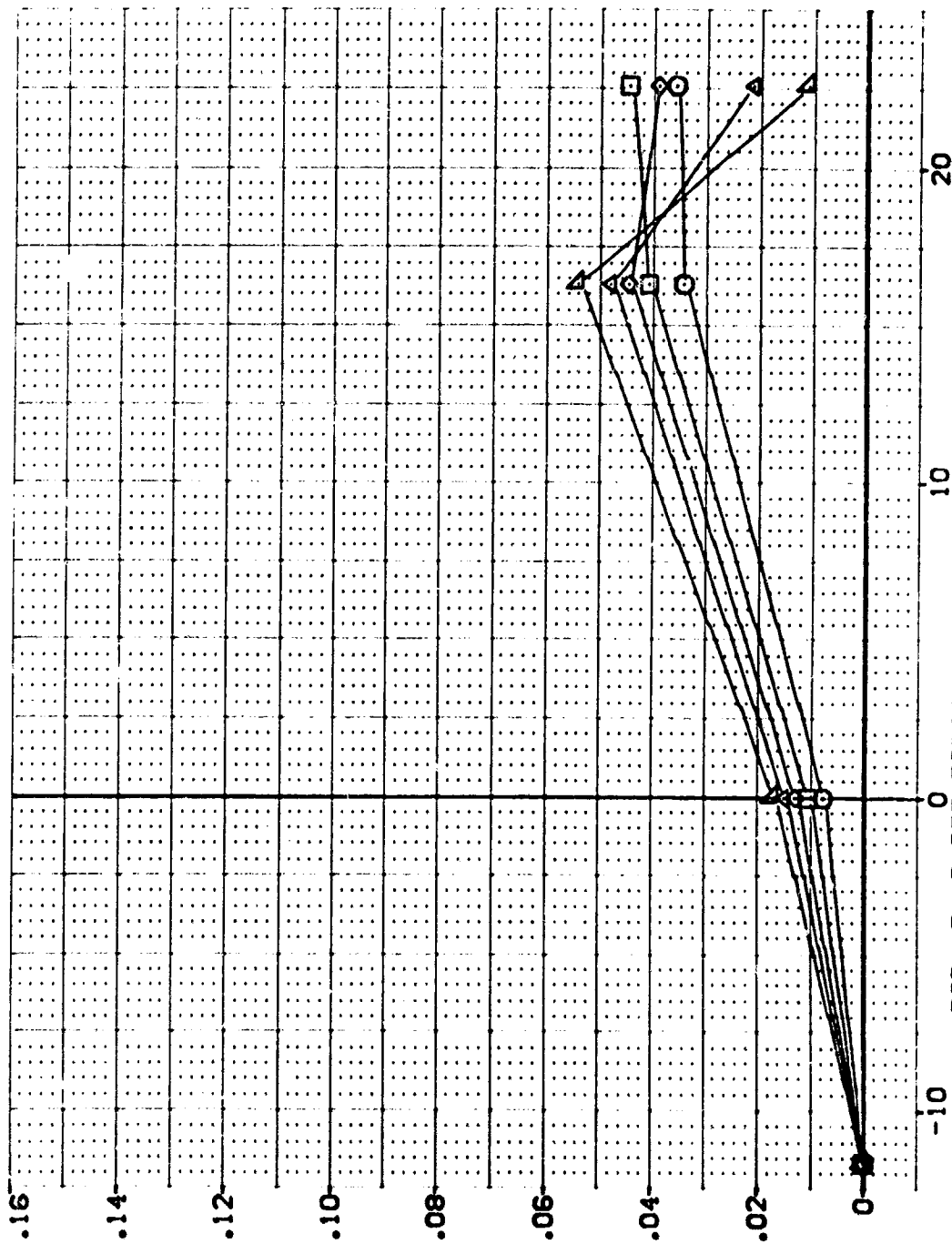
DATA SOURCE
 BDFLAP
 -11.700
 16.300

4.160
 -.670
 .000

DATASET
 492004
 492007

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



BODY FLAP DEFLECTION ANGLE, BDFLAP, DEGREES

BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL
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ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

MACH
 1.000
 25.550
 .000
 1.000

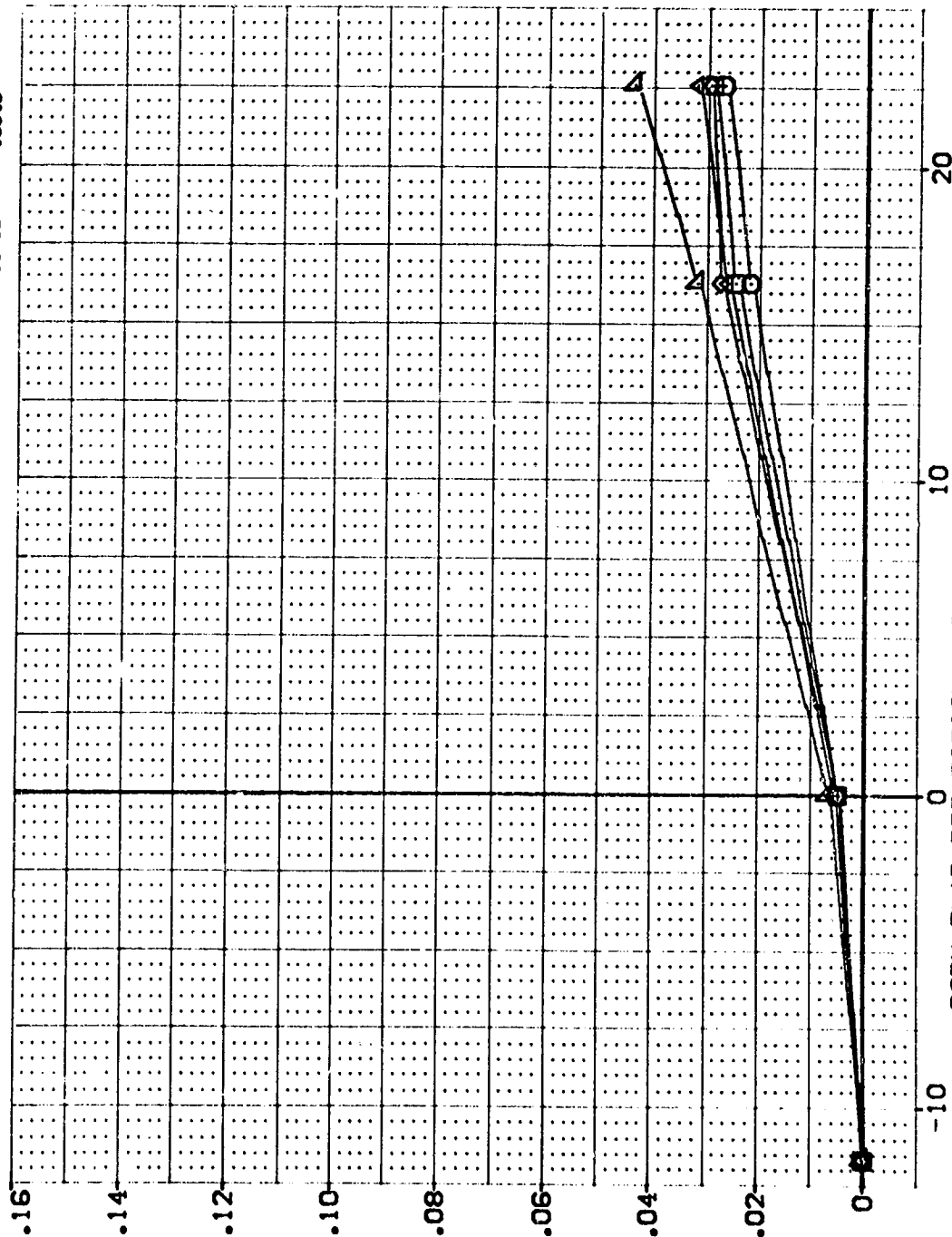
PARAMETRIC VALUES
 ELEVTR
 AILTRN
 RUDDER

DATA SOURCE
 4.160 DATASET
 -11.700
 .000 492007
 16.300

BOFLAP

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



BODY FLAP DEFLECTION ANGLE, BOFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL
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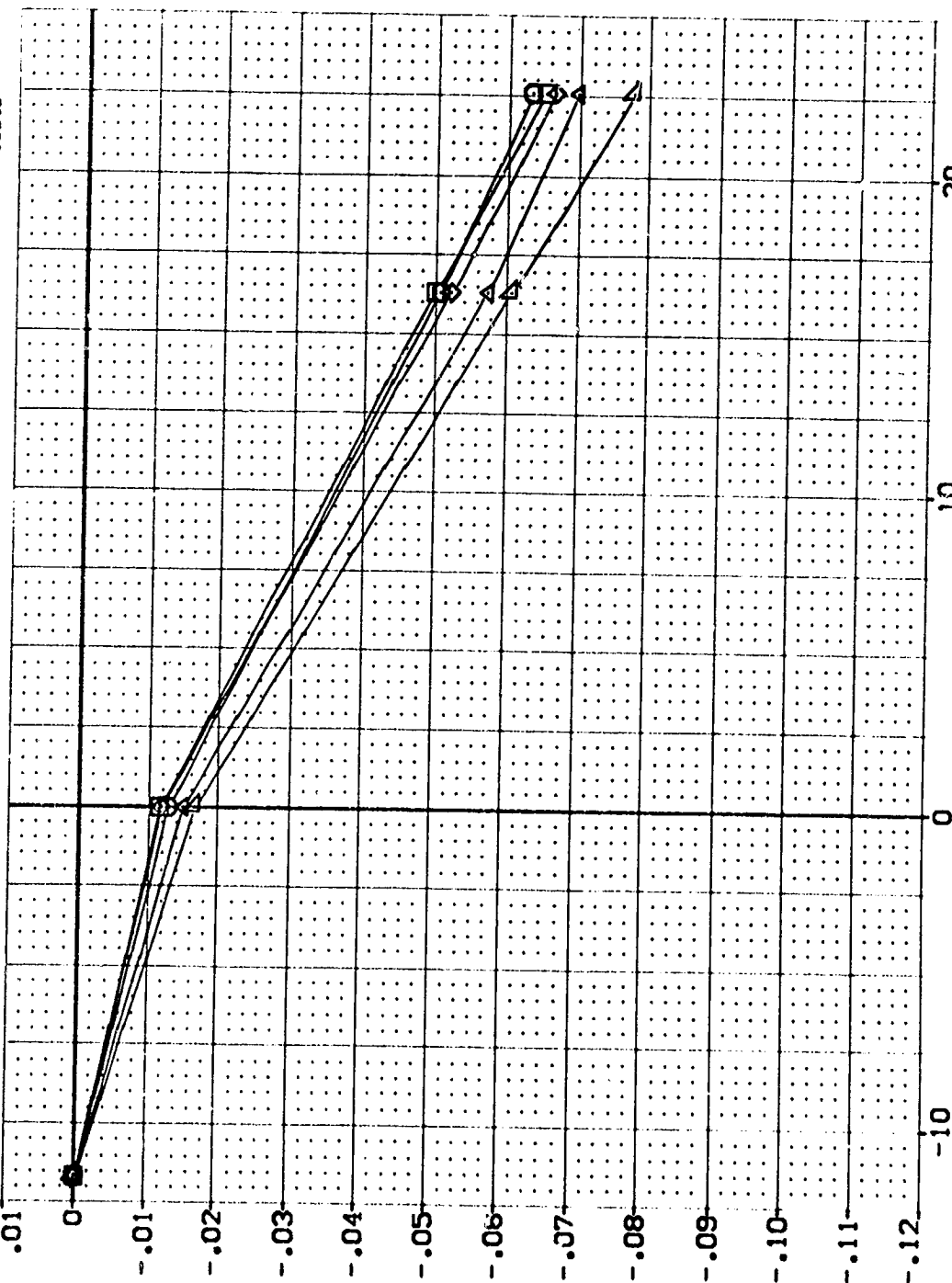
ALPHA
.000
5.000
10.000
15.000
20.000

PARAMETRIC VALUES
MACH .600
SPDRK 25.550
BETA .000
CONF 10 1.000

DATA SOURCE
4.160 DATASET
-670 492004
.000 492007

BOFLAP
-11.700
16.300

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 526.7000 IN.
XREF 1081.3500 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0040



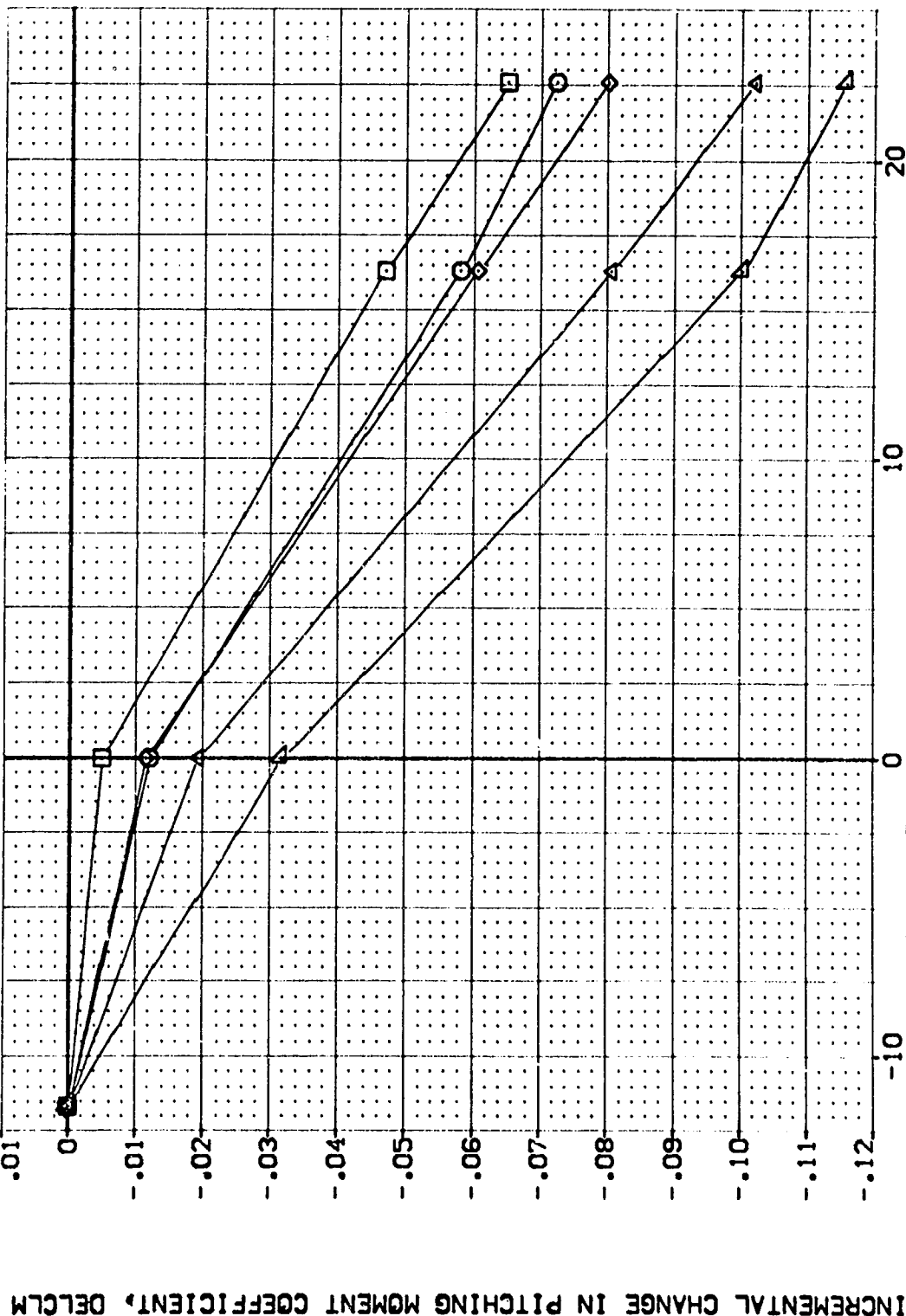
INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

BCFLAP DEFLECTION ANGLE, BCFLAP, DEGREES
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	4.160	DATA SET	SREF	2741.8000
.000	.900	-6.70	492004	LREF	481.6480
5.000	25.550	.000	492007	BREF	936.7000
10.000	BETA	.000		XREF	1081.3500
15.000	CONF 16	1.000		YREF	.0000
20.000				ZREF	.0000
				SCALE	.0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

SYMBOL
 ○ □ ◇ △ ▽

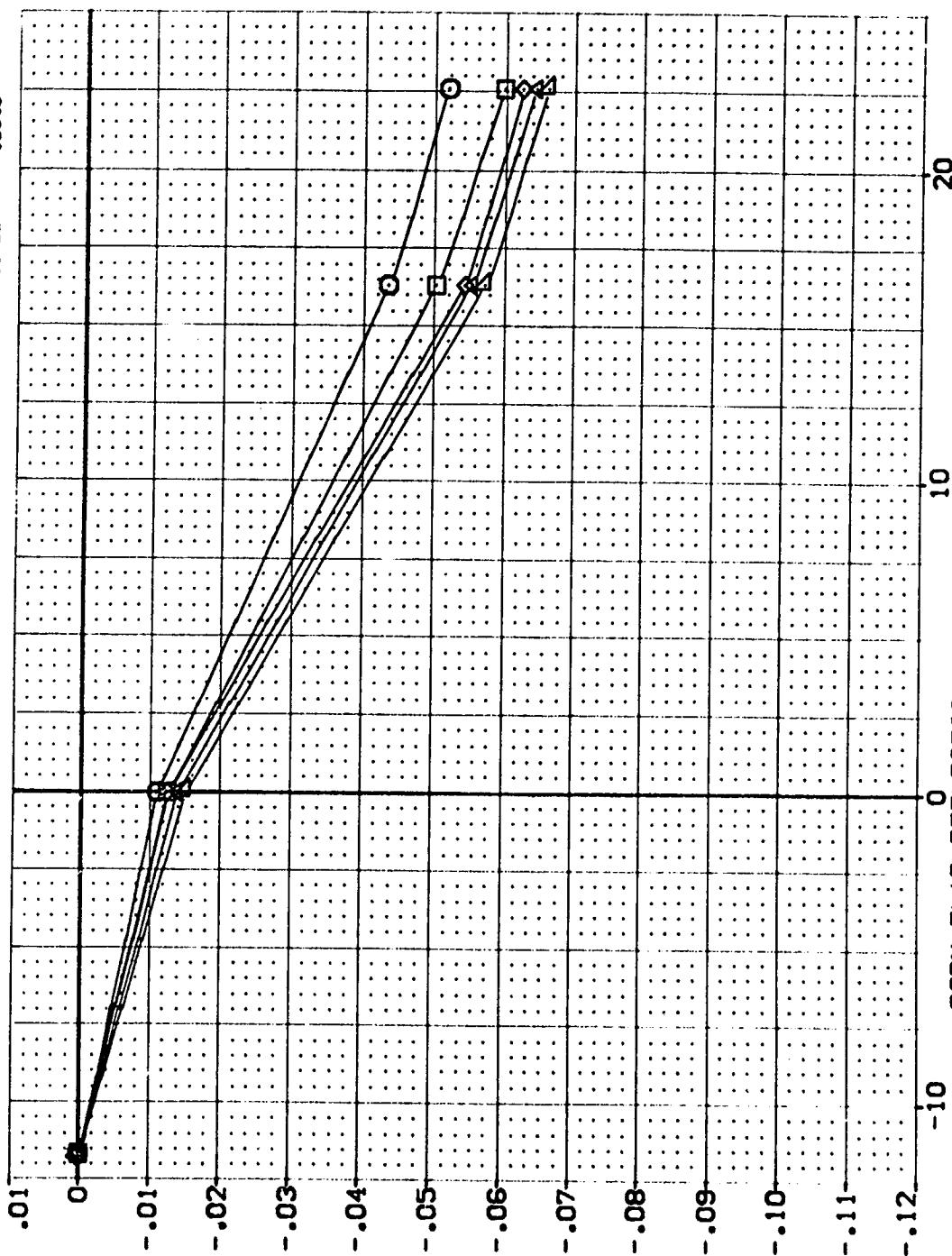
ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 1.200
 SPOBRK 25.550
 BETA .000
 CONF16 1.000

DATA SOURCE
 BOFLAP -11.700
 DATASET 492007

BOFLAP .000
 DATASET 492006
 DATASET 492007

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 YPRP 1081.3900 IN.
 ZPRP .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCM

BOFLAP DEFLECTION ANGLE, BOFLAP, DEGREES
 BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)



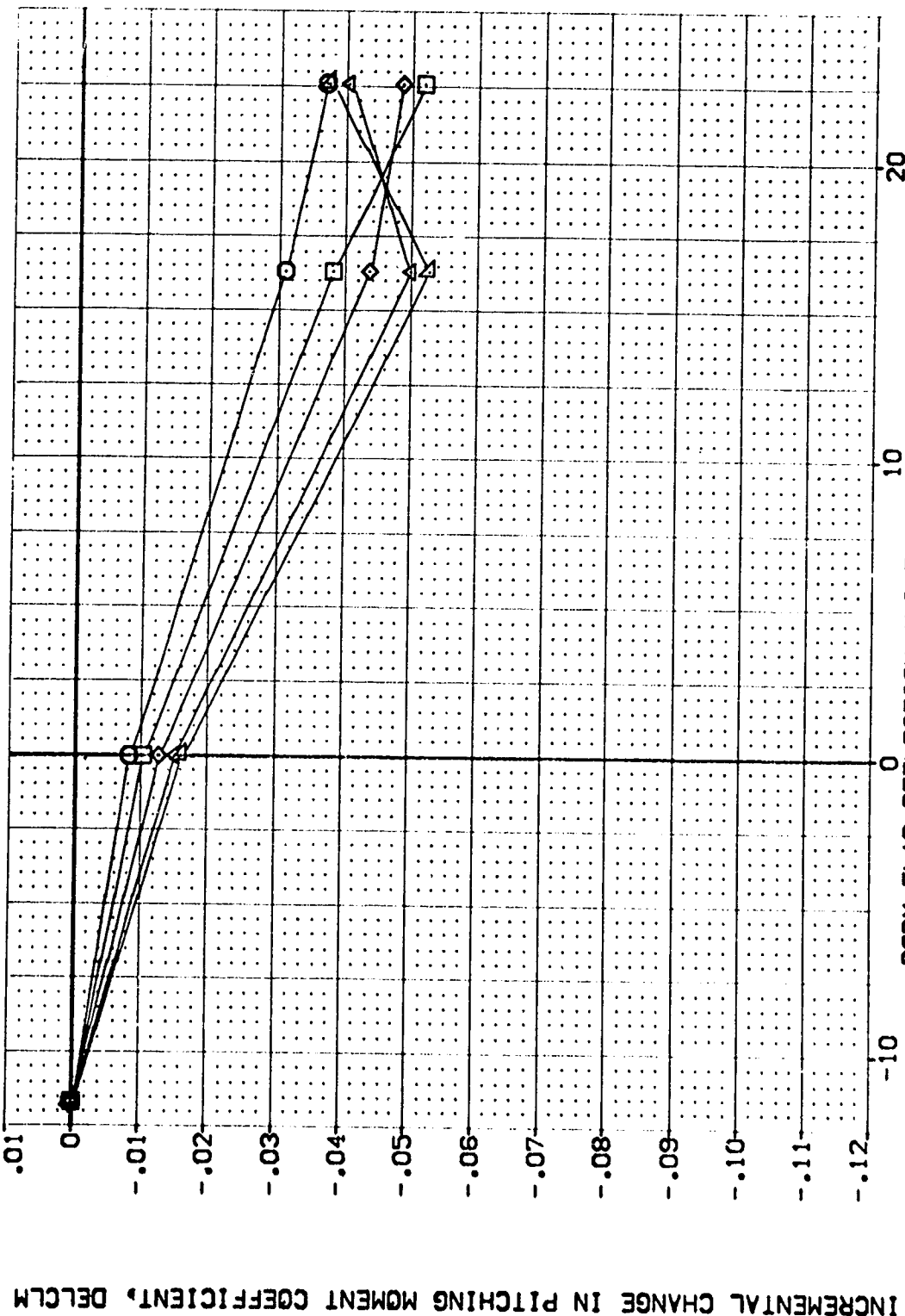
MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL
 ○ □ ◇ △ ▽

PARAMETRIC VALUES
 MACH 1.450 ELEVTR
 SPOBRK 25.550 AILRON
 BETA .000 RUDDER
 CONFIG 1.000

DATA SOURCE
 DATASET BDFLAP
 4.160 -11.700
 492004 16.300
 492007

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

SYMBOL
○ □ ◇ △ ▽

ALPHA
.000
5.000
10.000
15.000
20.000

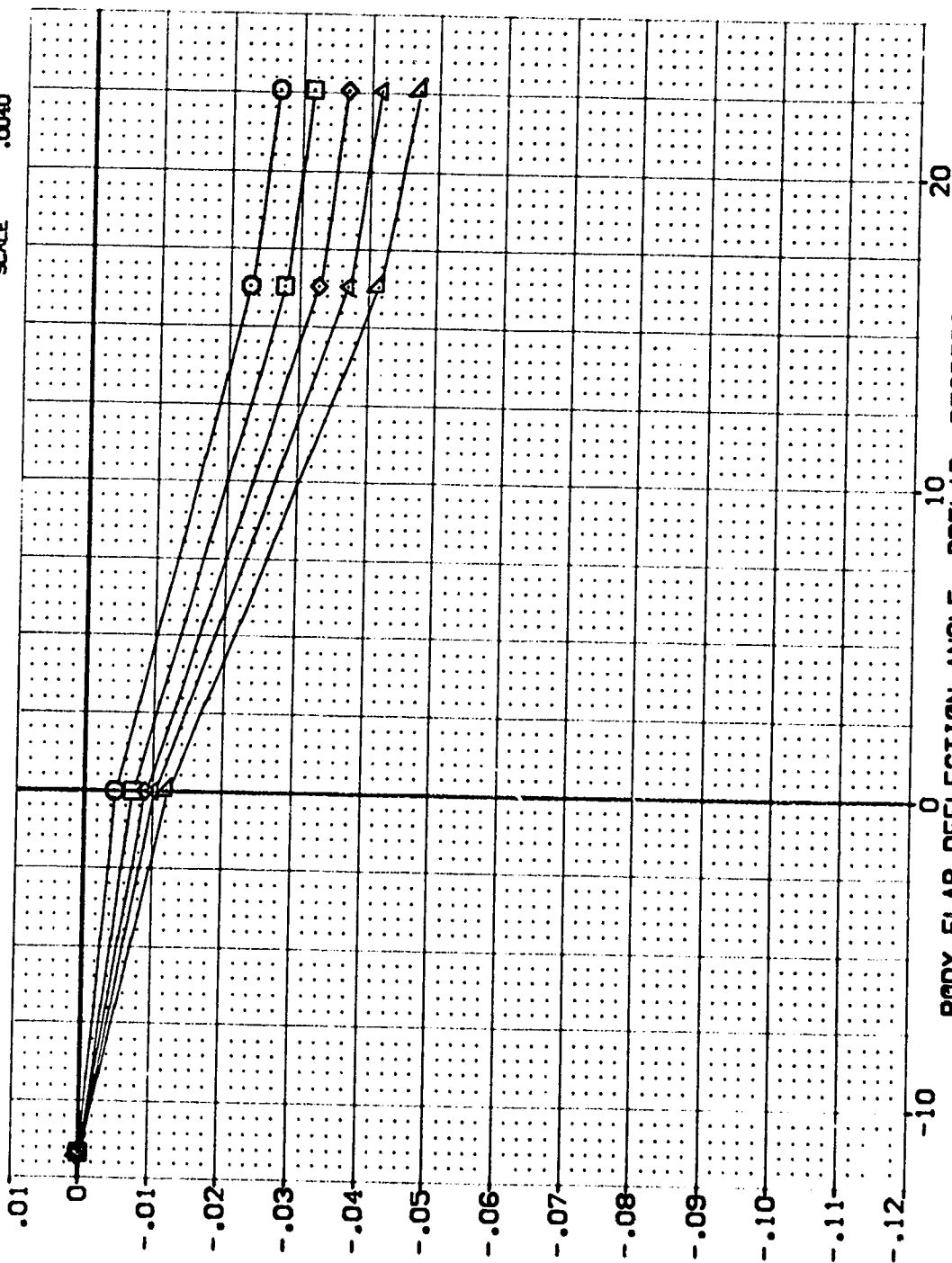
PARAMETRIC VALUES
MACH 1.500
SPDRK 25.550
BETA .000
CONFIG 1.000

ELEVTR
AILRON
RUDDER

DATA SOURCE
4.150 DATASET
-0.670 492004
.000 492007

BDFLAP
-11.700
15.300

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM

BODY FLAP DEFLECTION ANGLE, BDFLAP, DEGREES
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL
 ○ □ ◇ △

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

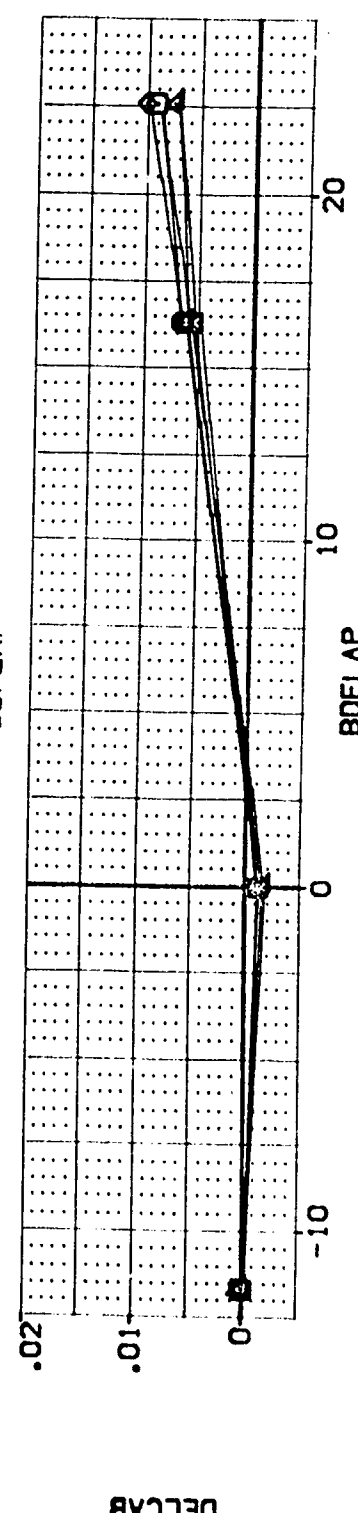
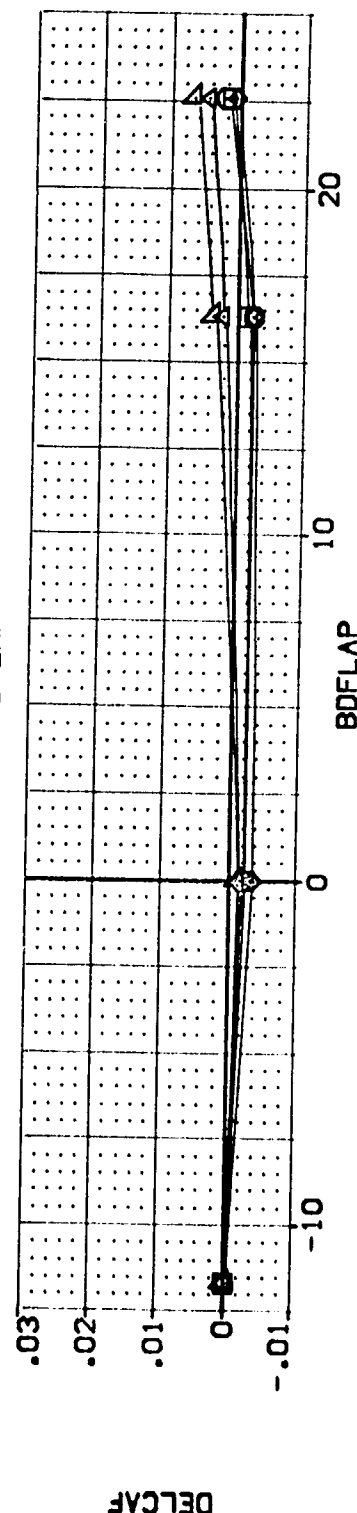
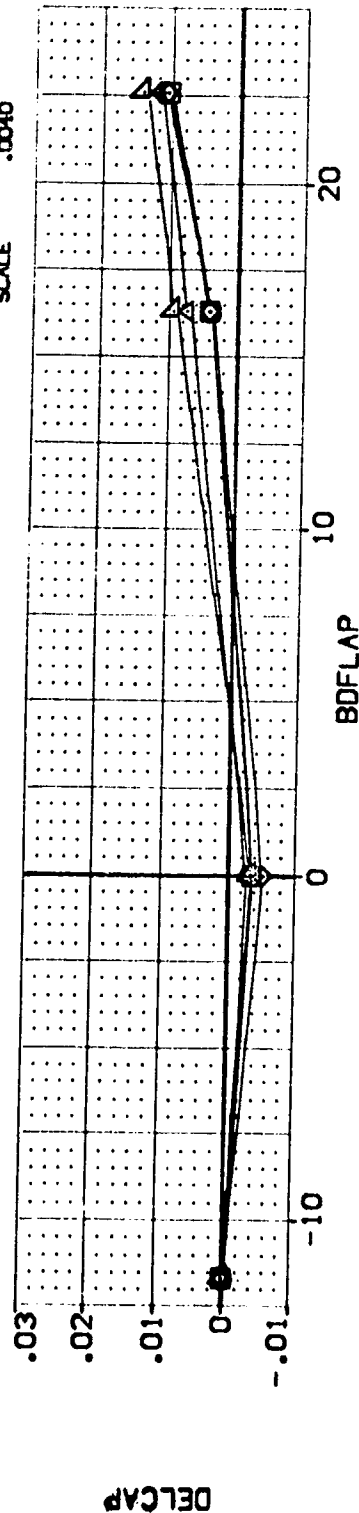
MACH
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 ELEVTR
 .600
 25.550
 .000
 1.000

DATA SOURCE
 DATASET
 4.160
 -5.70
 .000

BDFLAP
 -11.700
 16.300

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



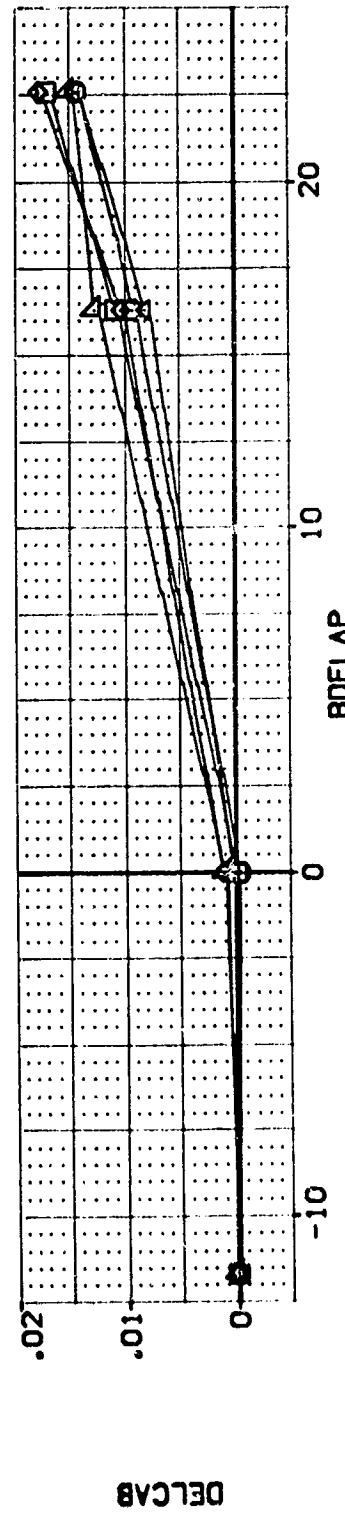
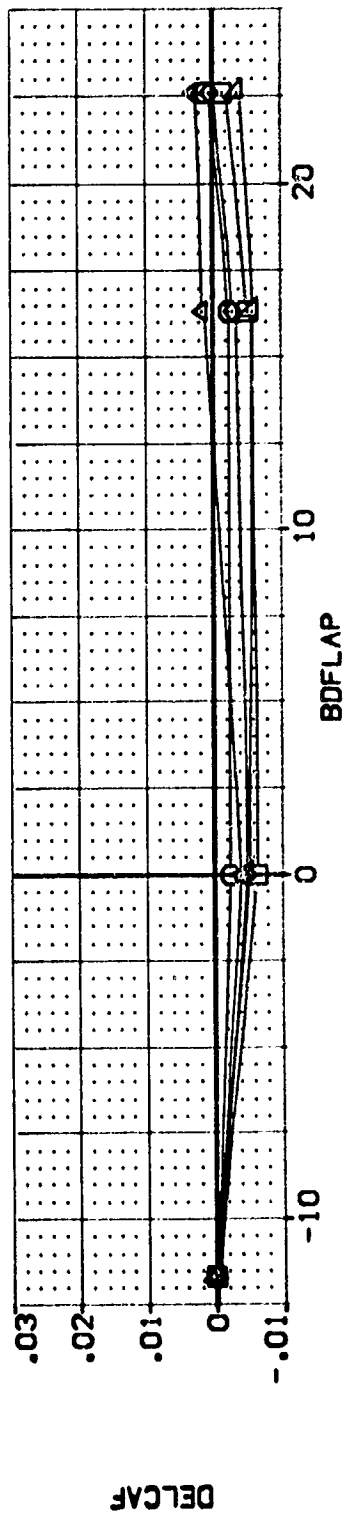
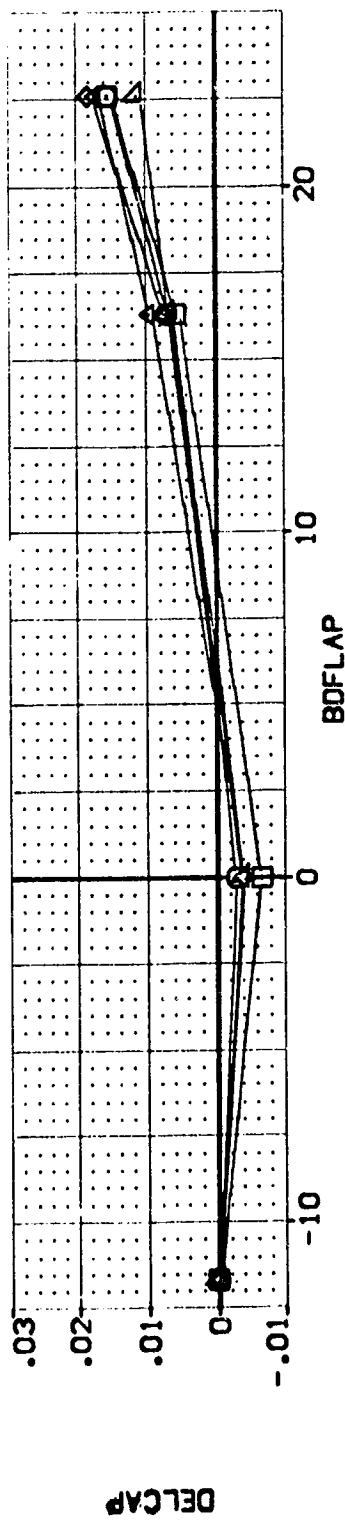
BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

SYMBOL
 ○ □ ◇ △ ▽

PARAMETRIC VALUES
 ALPHA .000
 5.000
 10.000
 15.000
 20.000
 MACH .900
 SPEED 25.550
 BETA .000
 CONF 16 1.000
 ELEVTR
 AIRON
 RUDDER

DATA SOURCE
 BOFLAP
 -11.700
 16.300
 DATASET
 4.160
 -5.70
 .000
 492004
 492007

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XTRP 1081.3900
 YTRP .0000
 ZTRP .0000
 SCALE .0040
 SQ. FT
 IN.
 IN.
 IN.
 IN.
 IN.



BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

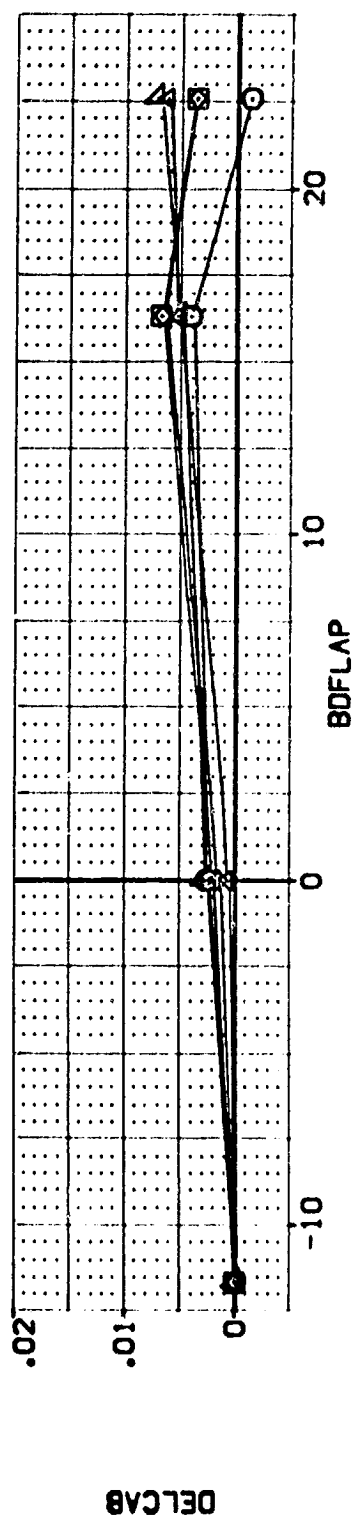
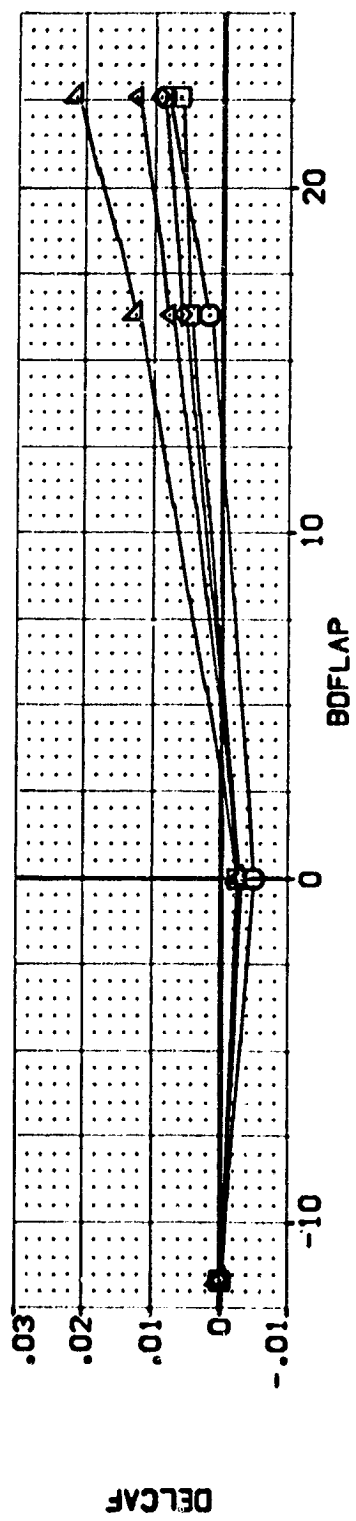
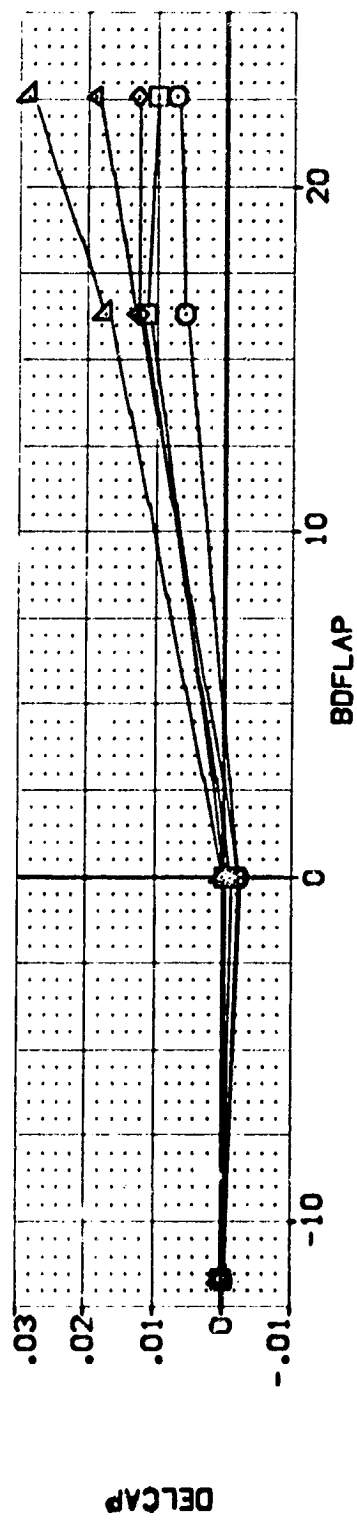


SYMBOL
 O
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 ◇
 ▽

PARAMETRIC VALUES
 MACH 1.450
 SPDRK 25.550
 BETA .000
 CNF16 1.000

DATA SOURCE
 DATASET 4.160
 BOFLAP -11.700
 492004
 492007

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XREF 1081.3500
 YREF .0000
 ZREF .0000
 SCALE .0040

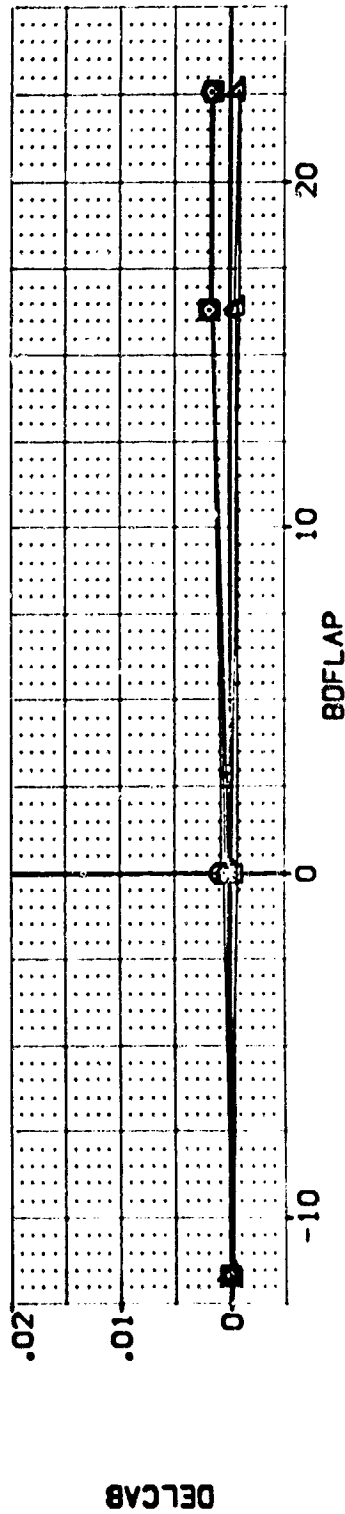
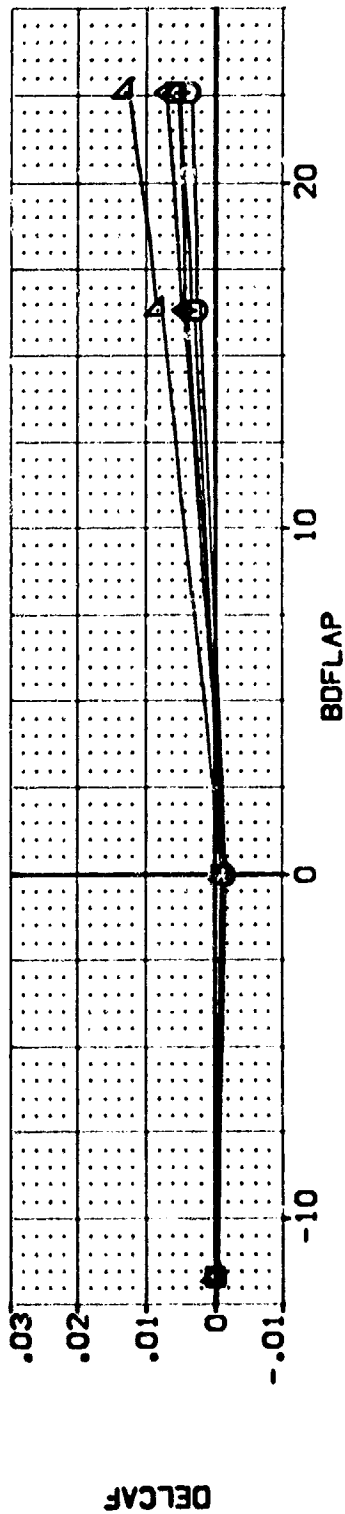
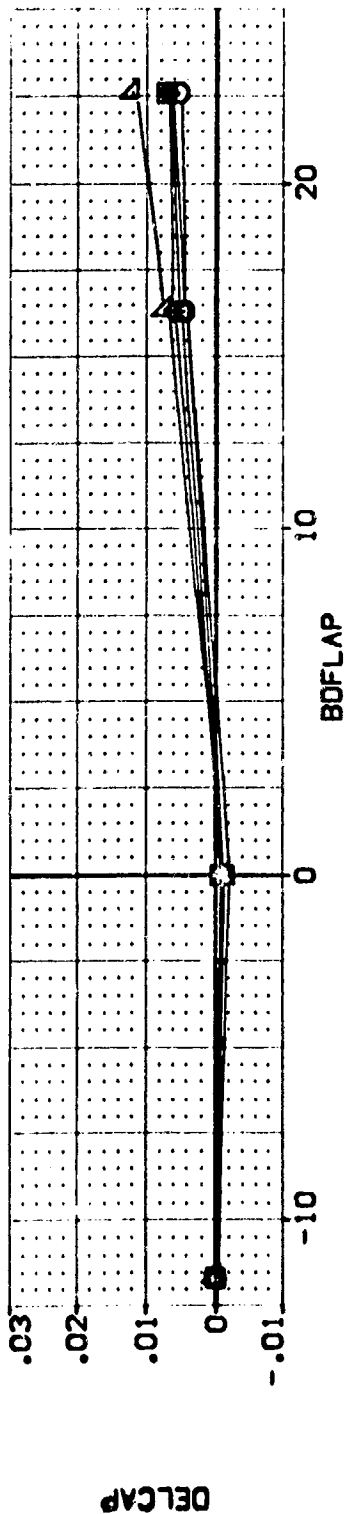


BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)



MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (492004)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	BOFLAP	REF	SO. FT
□	.000	1.560	ELEVTR	4.180	492004	.000	2741.8000	IN.
◇	.000	25.550	AIRLON	-.670	492006	.000	481.6480	IN.
◇	.000	.000	RUDER	.000	492007	22.600	506.7000	IN.
△	.000	1.000					1081.3500	IN.
△							.0000	IN.
							.0000	IN.
							.0040	IN.

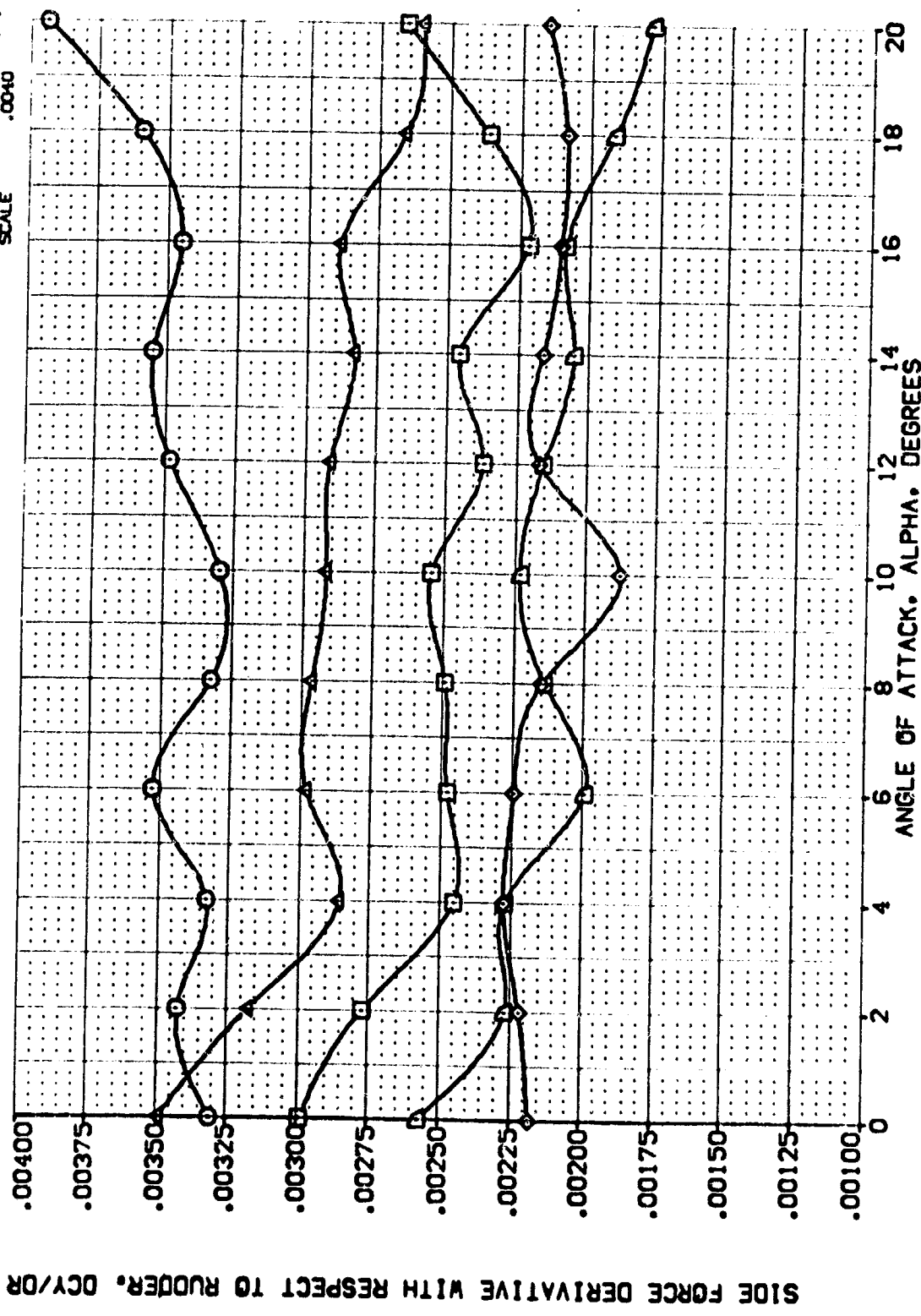


BODY FLAP EFFECTIVENESS (INC. FROM -11.7 DEGREE BODY FLAP)

DATA SET SYMBOL: 0047
 CONFIGURATION DESCRIPTION:
 MSC 581(0A49) 0RB 3A-0 (BDFH)(VE)(VR)
 MSC 521(0A49) 0RB 3A-0 (BDFH)(VE)(VR)
 MSC 521(0A49) 0RB 3A-0 (BDFH)(VE)(VR)
 MSC 581(0A49) 0RB 3A-0 (BDFH)(VE)(VR)
 DATA NOT AVAILABLE
 MSC 581(0A49) 0RB 3A-0 (BDFH)(VE)(VR)

SPOBRK DELAID BOFLAP
 .000 -10.000 -11.700
 .000 -10.000 -11.700
 .000 -10.000 -11.700
 .000 -10.000 -11.700
 .000 -10.000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.8460 IN.
 BREF 906.7000 IN.
 XREF 1081.3900 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

(A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(J92049) HSC 531(OA9) CRB 34-0 (BDH)(VE)(VR)

(J92050) HSC 531(OA9) CRB 34-0 (BDH)(VE)(VR)

(J92051) HSC 531(OA9) CRB 34-0 (BDH)(VE)(VR)

(J92111) HSC 531(OA9) CRB 34-0 (BDH)(VE)(VR)

(J92112) DATA NOT AVAILABLE

(J92113) HSC 531(OA9) CRB 34-0 (BDH)(VE)(VR)

(J92114) HSC 531(OA9) CRB 34-0 (BDH)(VE)(VR)

SPDRX DELRLO BDLAP

0.000 -10.000 -11.700

85.000 -10.000 -11.700

85.000 -10.000 -11.700

85.000 -10.000 -11.700

85.000 -10.000 -11.700

85.000 -10.000 -11.700

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT

LREF 481.6480 IN.

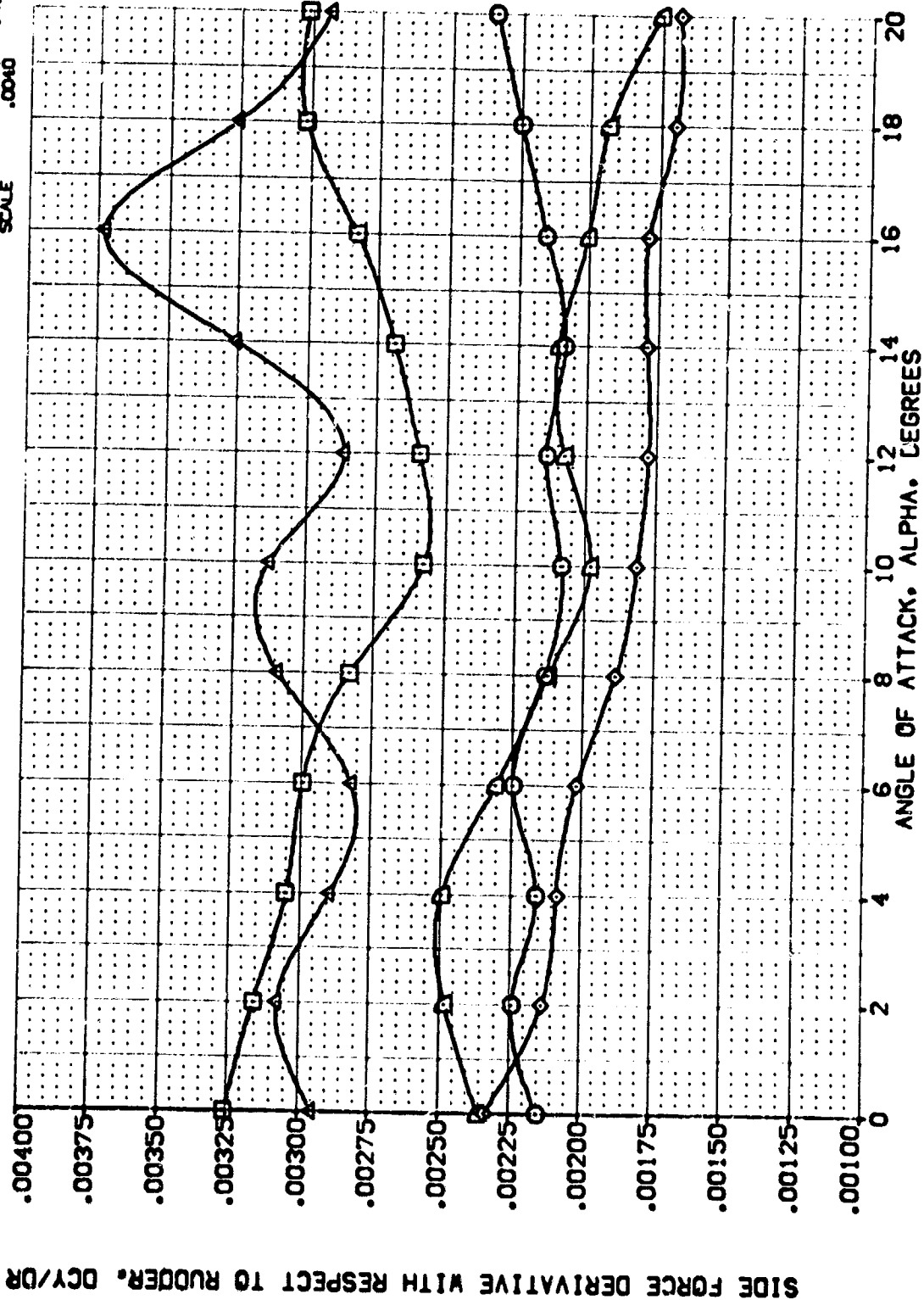
BREF 836.7000 IN.

XREF 1081.3500 IN.

YREF .0000 IN.

ZREF .0000 IN.

SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

(B)MACH = .90

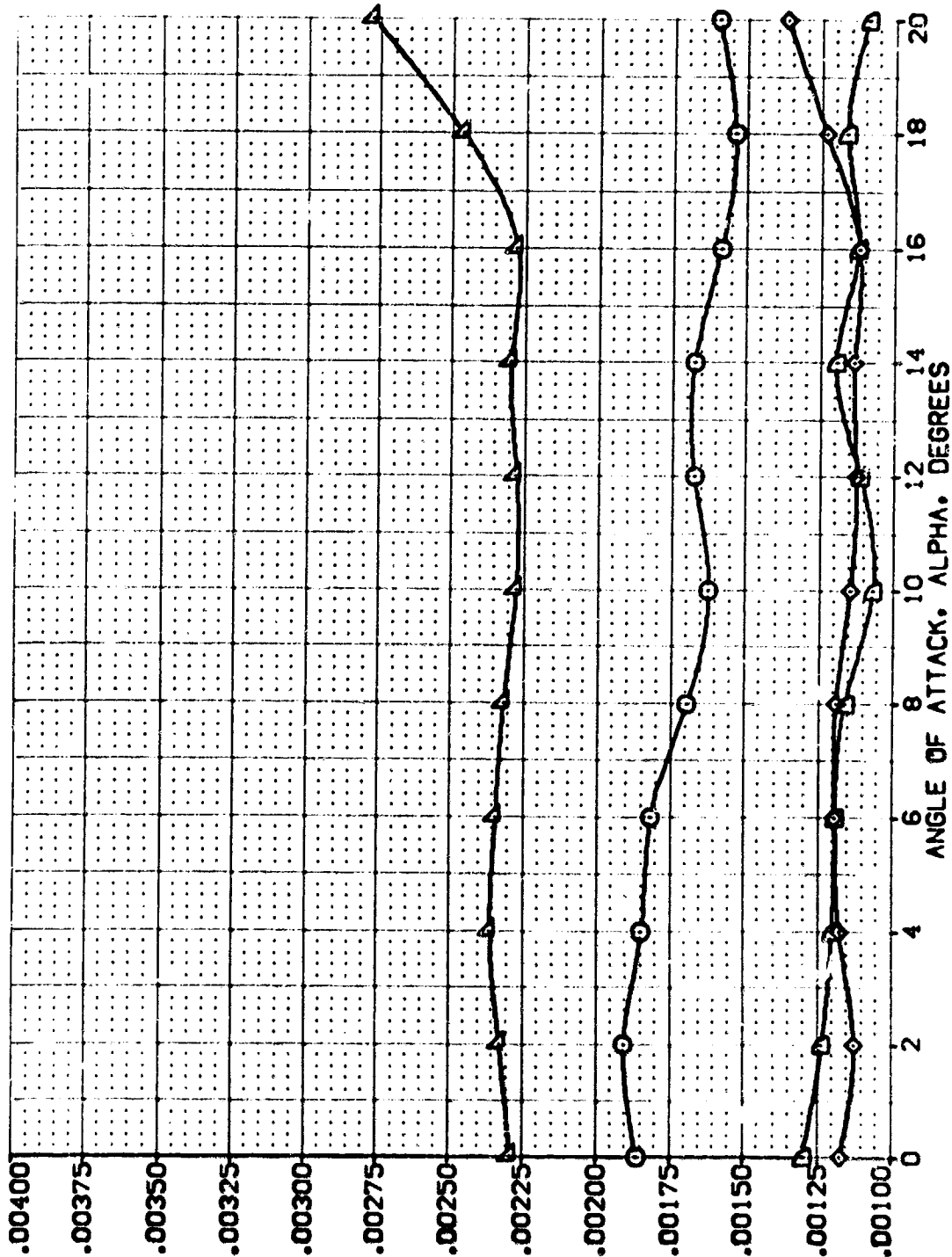
DATA SET SYMBOL
 (32049)
 (32050)
 (32051)
 (32111)
 (32112)
 (32113)
 (32114)

CONFIGURATION DESCRIPTION
 HSC 501 (0419) CRB 34-0 (BDTH)(VE)(VR)
 DATA NOT AVAILABLE
 HSC 501 (0419) CRB 34-0 (BDTH)(VE)(VR)
 DATA NOT AVAILABLE
 HSC 501 (0419) CRB 34-0 (BDTH)(VE)(VR)
 HSC 501 (0419) CRB 34-0 (BDTH)(VE)(VR)

SPOBRK DEL.RLO BDFLAP
 .000 -10.000 -11.700
 55.000 -10.000 -11.700
 55.000 -10.000 -11.700
 55.000 -10.000 -11.700
 55.000 -10.000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

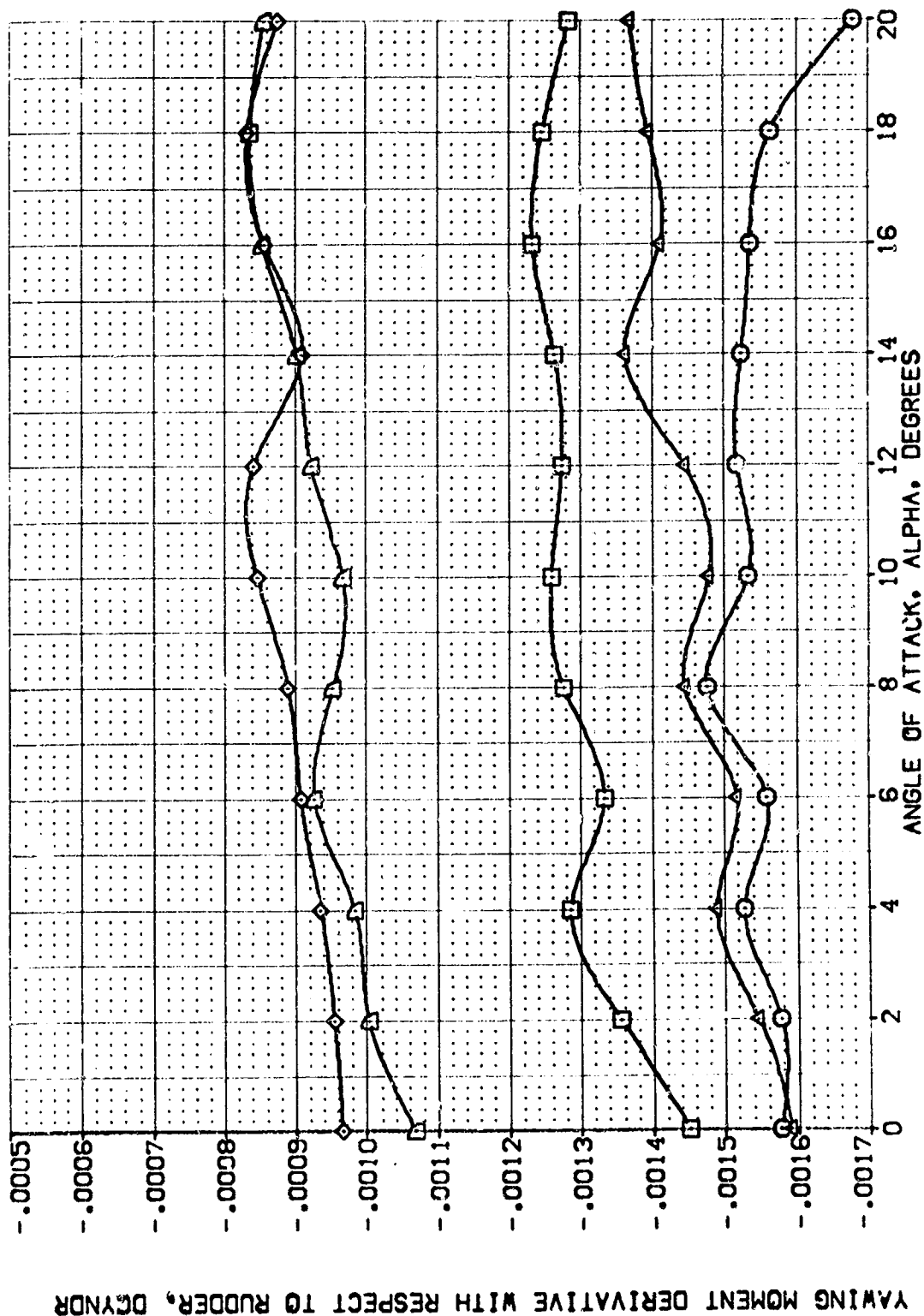
SIDE FORCE DERIVATIVE WITH RESPECT TO RUDDER, DCY/DR



RUDDER EFFECTIVENESS BETA SWEEP DATA

(C)MACH = 1.20

DATA SET SYMBOL	DATA SET SYMBOL
[J92049]	[J92049]
[J92050]	[J92050]
[J92051]	[J92051]
[J92111]	[J92111]
[J92113]	[J92113]
[J92114]	[J92114]



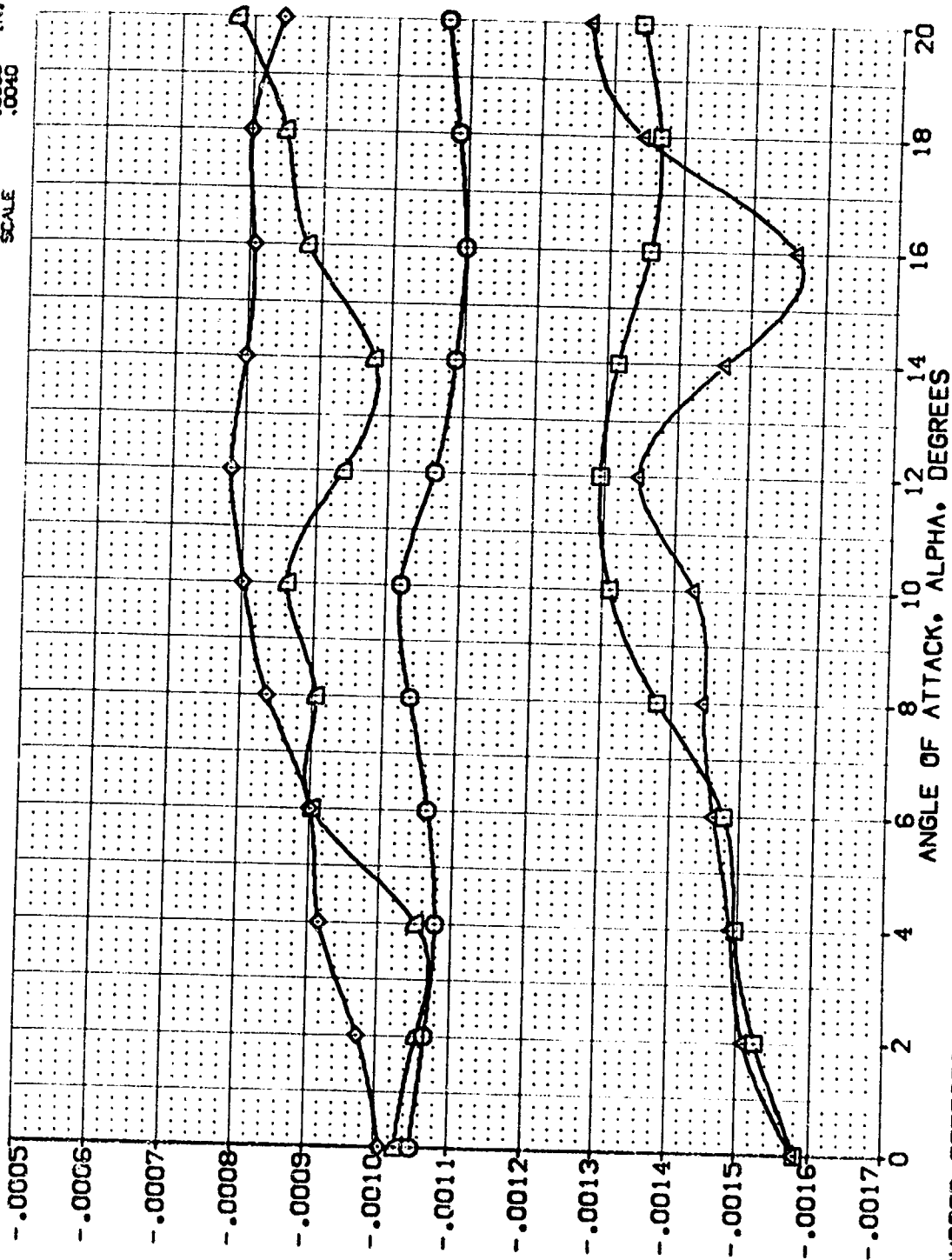
RUDDER EFFECTIVENESS BETA SWEEP DATA

$$\{A\}MACH = .60$$



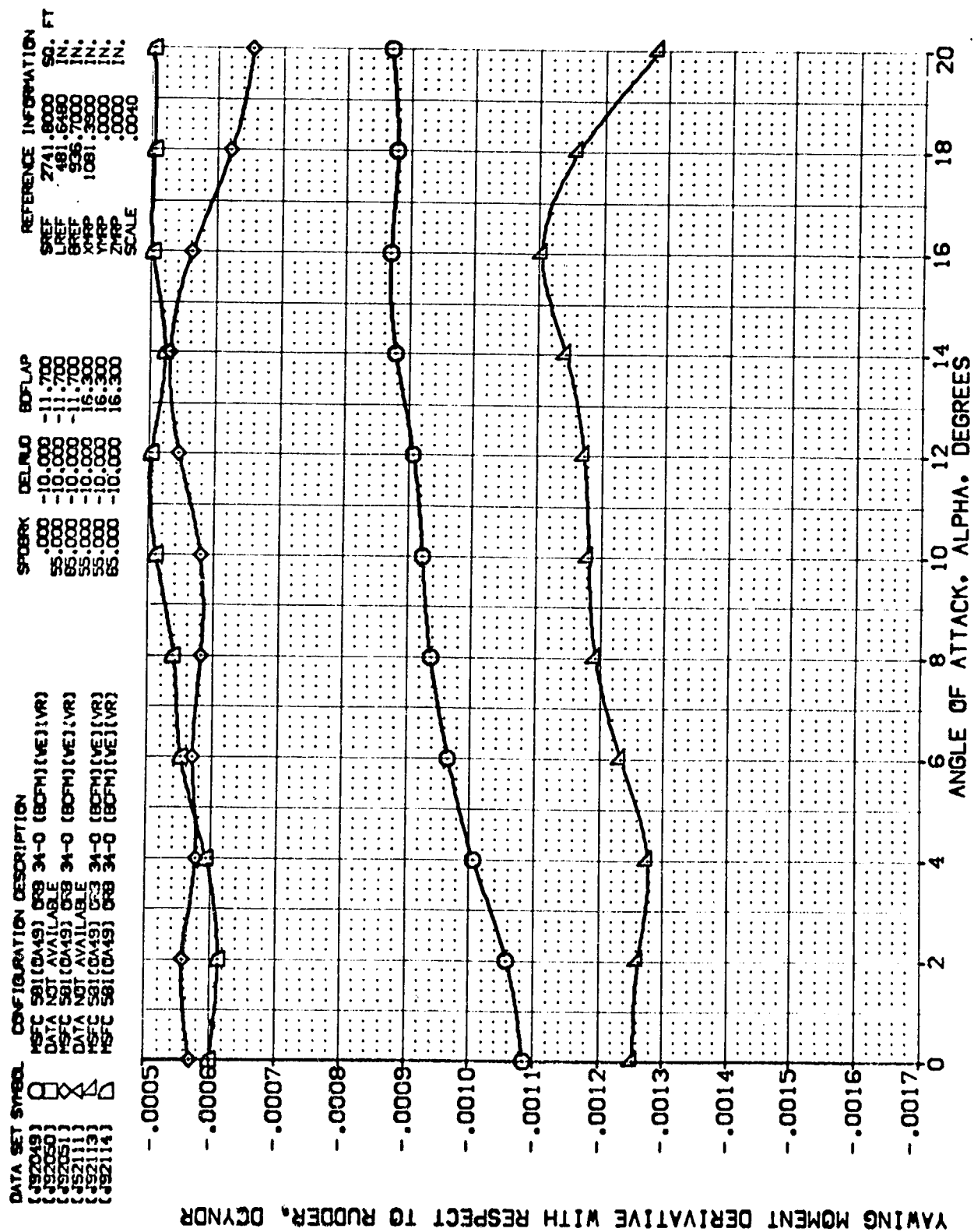
YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SPDRBY	DEL RUJ	BD FLAP	REFERENCE INFORMATION
(J92049)	MSC 501(CA49) DB 34-0 (BDPM)(VE)(VR)	.000	-10.000	-11.700	SREF 2741.8000 SQ. FT
(J92050)	MSC 501(CA49) DB 34-0 (BDPM)(VE)(VR)	55.000	-10.000	-11.700	LREF 481.6400 IN.
(J92111)	MSC 501(CA49) DB 34-0 (BDPM)(VE)(VR)	85.000	-10.000	-11.700	SREF 536.7000 IN.
(J92112)	DATA NOT AVAILABLE	55.000	-10.000	-11.700	XREF 1281.3900 IN.
(J92113)	MSC 501(CA49) DB 34-0 (BDPM)(VE)(VR)	52.000	-10.000	-16.300	YREF .0000 IN.
(J92114)	MSC 501(CA49) DB 34-0 (BDPM)(VE)(VR)	85.000	-10.000	-16.300	ZREF .0000 IN.
					SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

(B)MACH = .90



RUDDER EFFECTIVENESS BETA SWEEP DATA

```
CC)MACH = 1.20
```

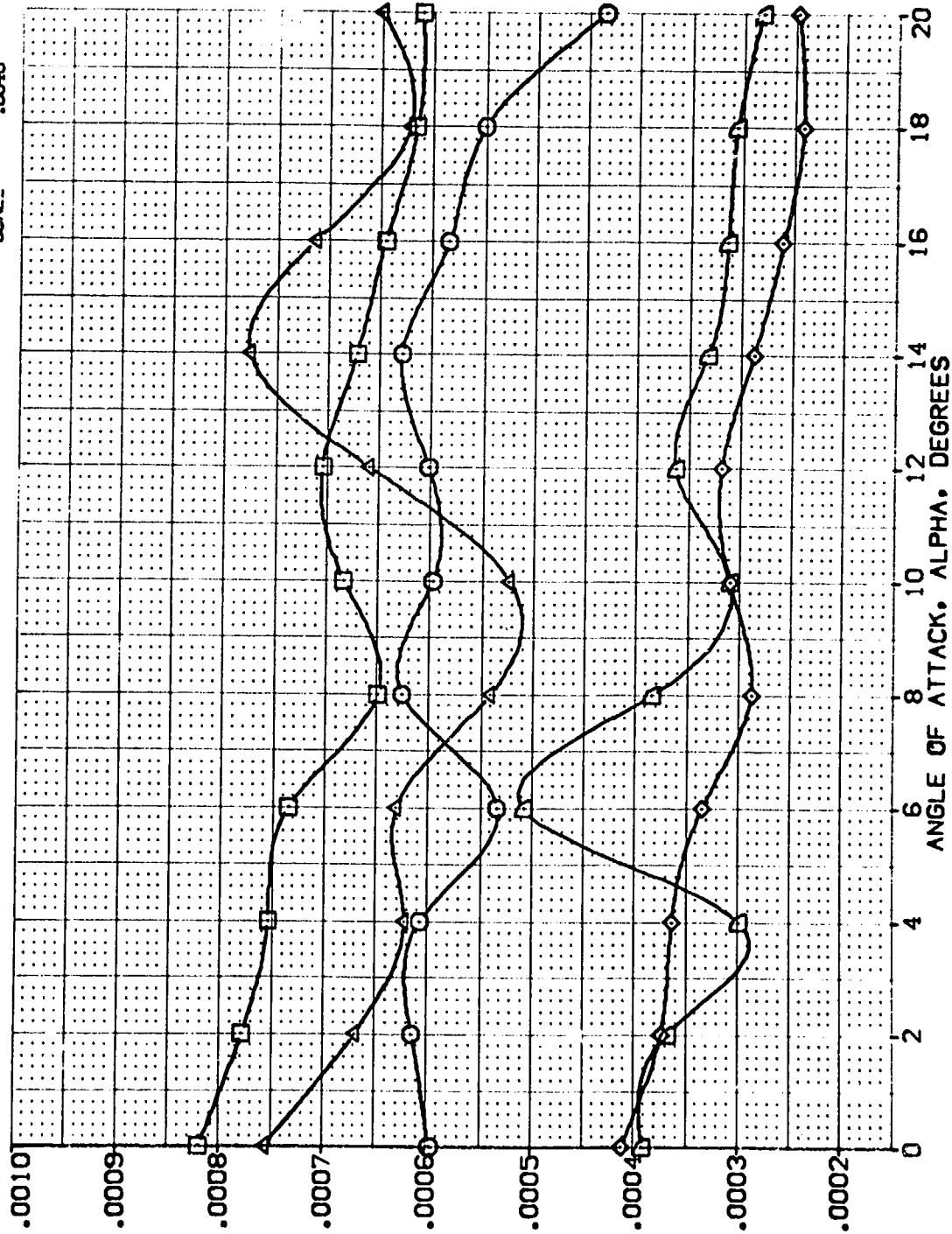



ROLLING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCBLDR

DATA SET SYMBOL CONFIGURATION DESCRIPTION
[452049] M5FC 581(GA49) CRB 34-0 (BCFH)(VE)(VR)
[452050] M5FC 581(GA49) CRB 34-0 (BCFH)(VE)(VR)
[452051] M5FC 581(GA49) CRB 34-0 (BCFH)(VE)(VR)
[452111] M5FC 581(GA49) CRB 34-0 (BCFH)(VE)(VR)
[452113] DATA NOT AVAILABLE
[452114] M5FC 581(GA49) CRB 34-0 (BCFH)(VE)(VR)

SPOBRK DELRUD BOFLAP
0.000 -10.000 -11.700
55.000 -10.000 -11.700
65.000 -10.000 -16.300
55.000 -10.000 -16.300
65.000 -10.000 -16.300

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 926.7000 IN.
VREF 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040

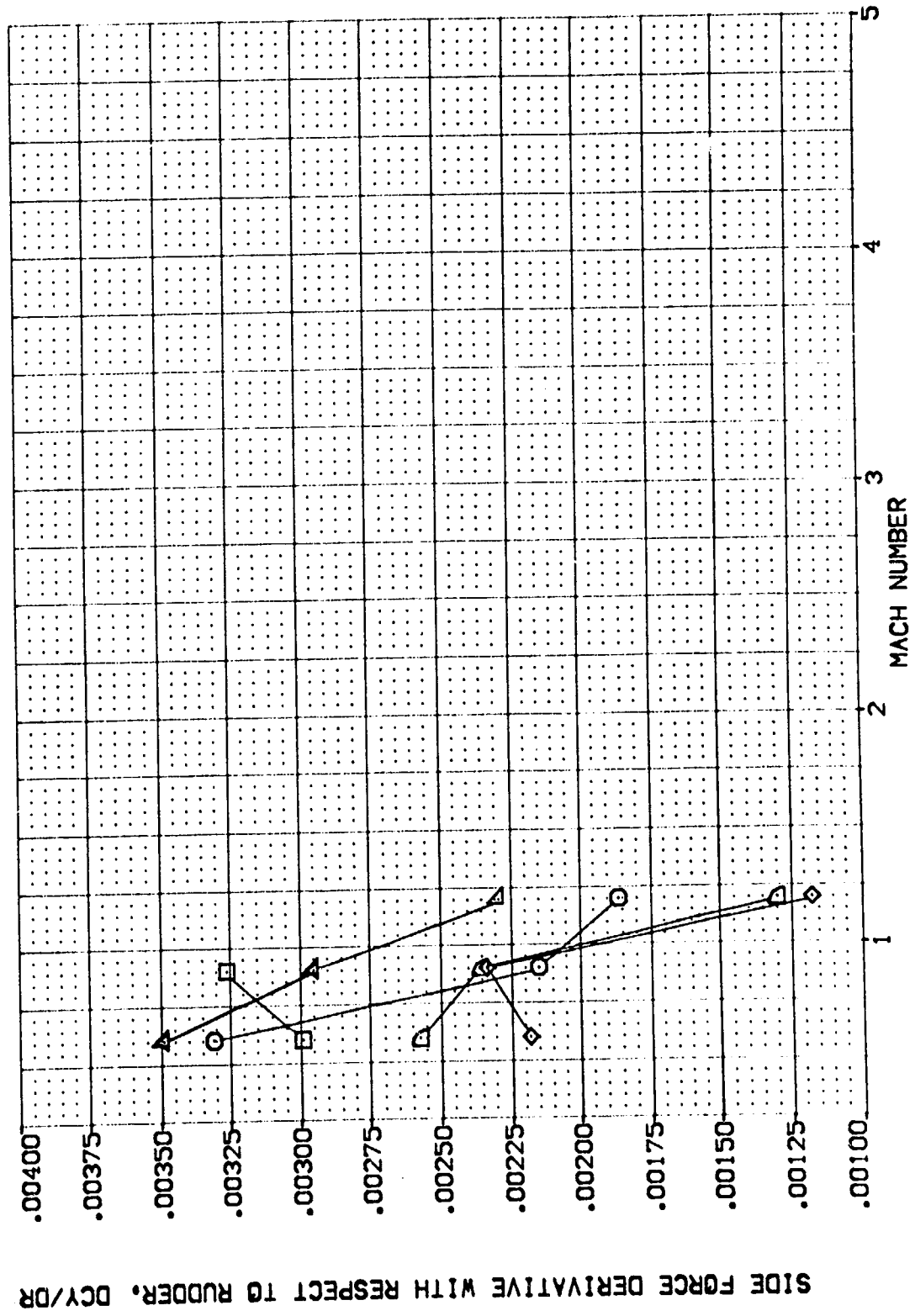


RUDDER EFFECTIVENESS BETA SWEEP DATA

(B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION SPOBRK DELRUD BDFLAP REFERENCE INFORMATION

[992049]	M5C 581(DA49) DB 34-0 (BCFH)(VE)(VR)	.000	-10.000	-11.700	SREF 2741.6000 SQ. FT
[992050]	M5C 581(DA49) DB 34-0 (BCFH)(VE)(VR)	55.000	-10.000	-11.700	LREF 481.6480 IN.
[992051]	M5C 581(DA49) DB 34-0 (BCFH)(VE)(VR)	65.000	-10.000	-11.700	BREF 936.7000 IN.
[992111]	M5C 581(DA49) DB 34-0 (BCFH)(VE)(VR)	55.000	-10.000	16.300	YMRP 1081.3500 IN.
[992113]	M5C 581(DA49) DB 34-0 (BCFH)(VE)(VR)	55.000	-10.000	16.300	ZMRP .0000 IN.
[992114]	M5C 581(DA49) DB 34-0 (BCFH)(VE)(VR)	65.000	-10.000	16.300	SCALE .0040



SIDE FORCE DERIVATIVE WITH RESPECT TO RUDDER, DCY/DR

RUDDER EFFECTIVENESS BETA SWEEP DATA

CAJALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(992049) MSFC S81(CA49) C78 34-0 (BCFM)(VE)(VR)

(992050) MSFC S81(CA49) C78 34-0 (BCFM)(VE)(VR)

(992051) MSFC S81(CA49) C78 34-0 (BCFM)(VE)(VR)

(992111) MSFC S81(CA49) C78 34-0 (BCFM)(VE)(VR)

(992113) MSFC S81(CA49) C78 34-0 (BCFM)(VE)(VR)

(992114) MSFC S81(CA49) C78 34-0 (BCFM)(VE)(VR)

SPDRK DELRJD BOFLAP

.000 -10.000 -11.700

55.000 -10.000 -11.700

65.000 -10.000 -11.700

55.000 -10.000 16.300

55.000 -10.000 16.300

65.000 -10.000 16.300

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT

LREF 481.6480 IN.

BREF 936.7000 IN.

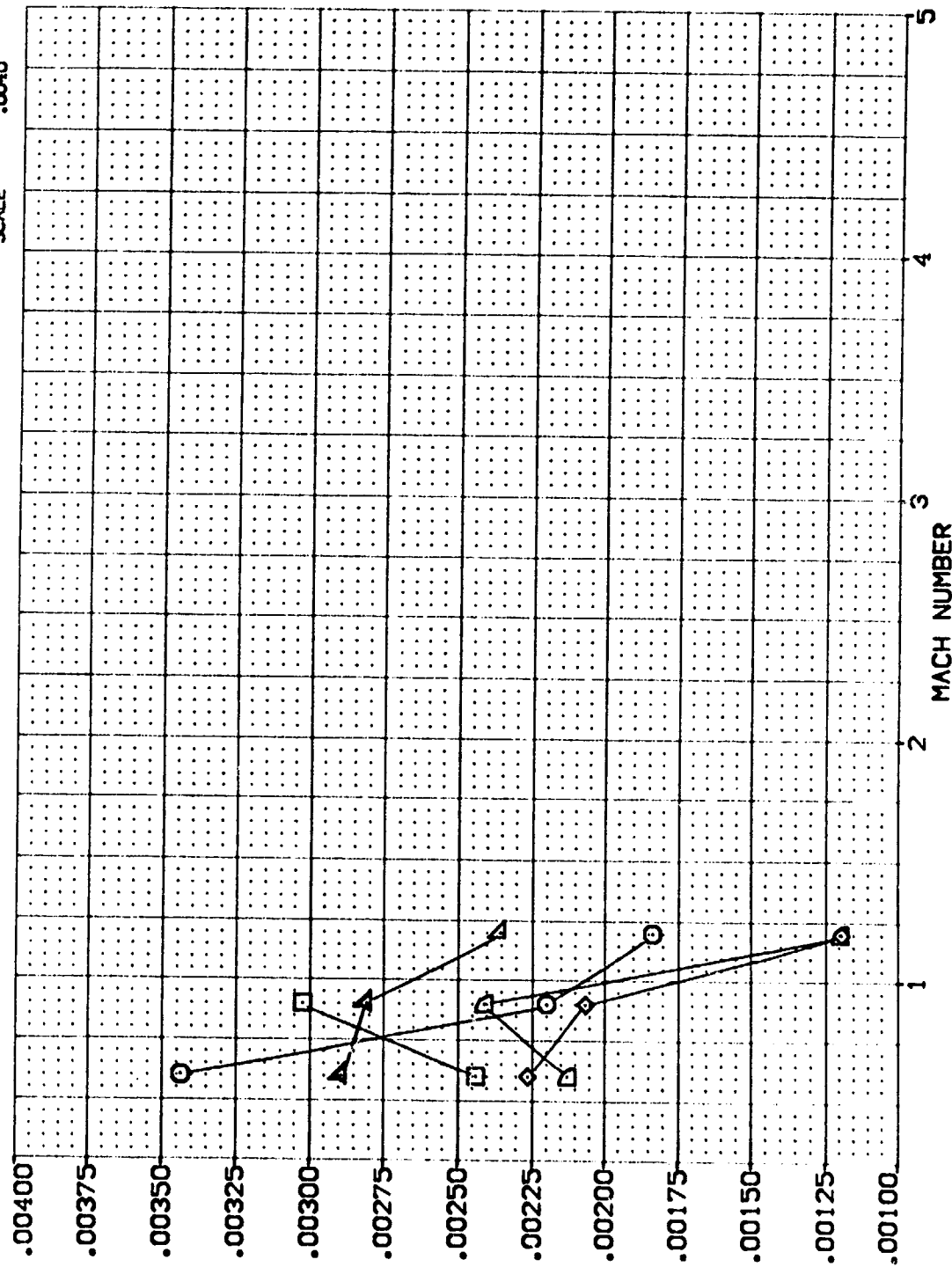
XMRP 1081.3500 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0040

SIDE FORCE DERIVATIVE WITH RESPECT TO RUDDER, DCY/DR



RUDDER EFFECTIVENESS BETA SWEEP DATA

(B)ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[982049]	[982049] DB 34-0 (BCFM)(VE)(VR)
[982050]	[982050] DB 34-0 (BCFM)(VE)(VR)
[982051]	[982051] DB 34-0 (BCFM)(VE)(VR)
[982111]	[982111] DB 34-0 (BCFM)(VE)(VR)
[982113]	[982113] DB 34-0 (BCFM)(VE)(VR)
[982114]	[982114] DB 34-0 (BCFM)(VE)(VR)

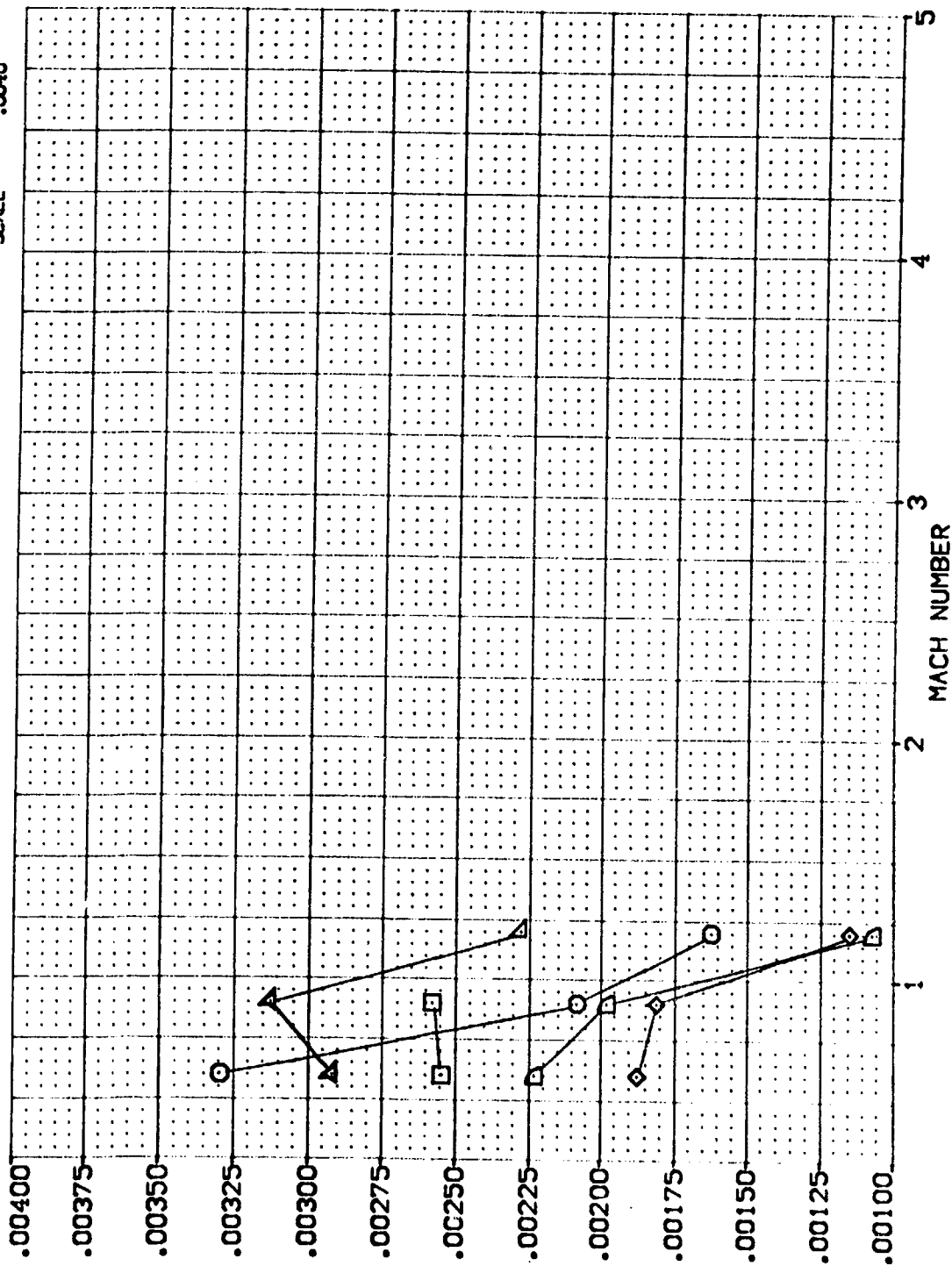
SPDRK DELRUD BDELAP

0.000	-10.000	-11.700
55.000	-10.000	-11.700
55.000	-10.000	-11.700
55.000	-10.000	-11.700
55.000	-10.000	-11.700
55.000	-10.000	-11.700

REFERENCE INFORMATION

SREF	2741.8000	SD: FT
LREF	491.6480	IN:
BREF	936.7000	IN:
XMRP	1081.3900	IN:
YMRP	.0000	IN:
ZMRP	.0000	IN:
SCALE	.0040	

SIDE FORCE DERIVATIVE WITH RESPECT TO RUDDER, DCY/DR



RUDDER EFFECTIVENESS BETA SWEEP DATA

(CJALPHA = 10.00

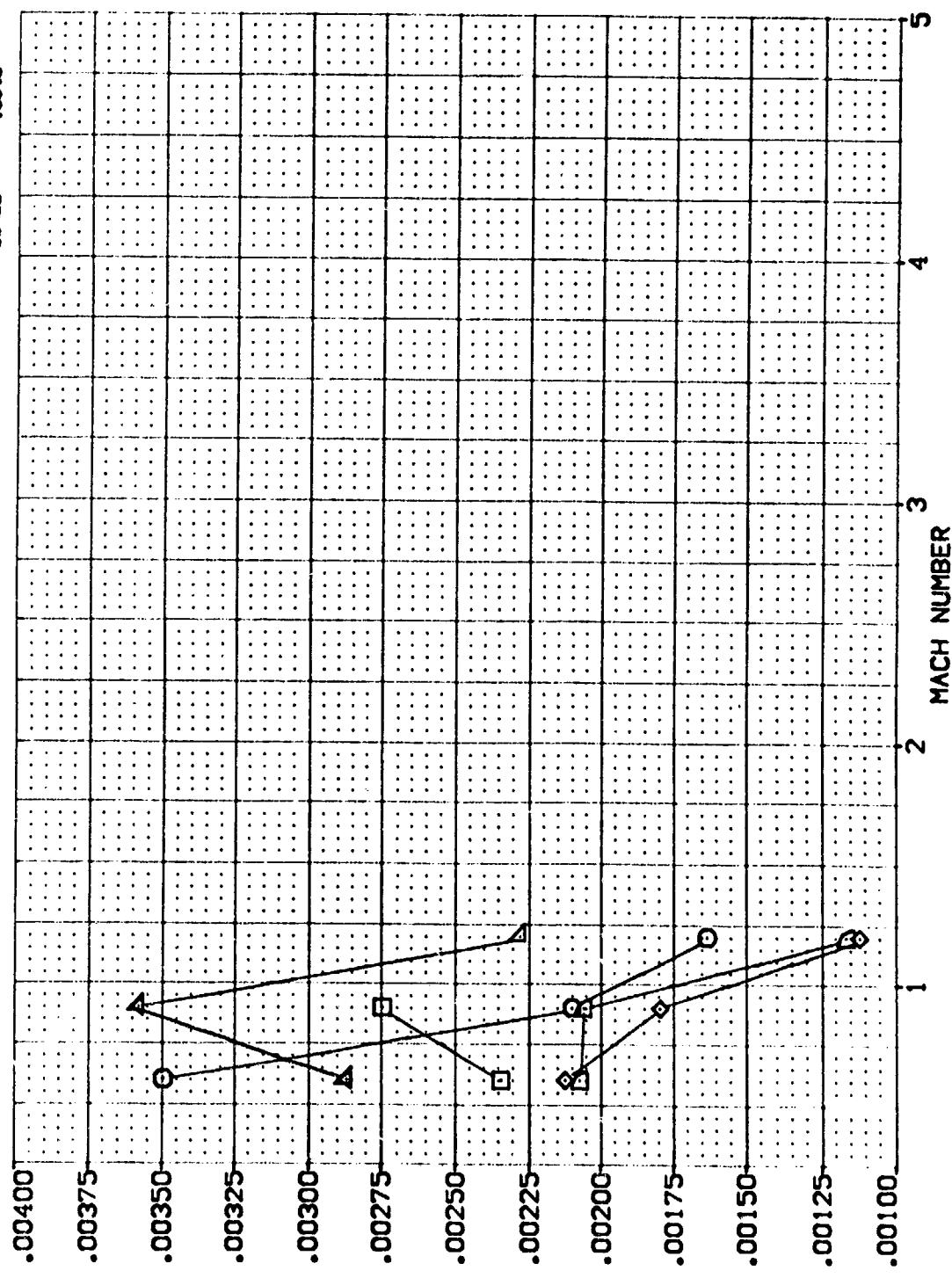
DATA SET SYMBOL
 (922049)
 (922050)
 (922051)
 (922111)
 (922112)
 (922113)
 (922114)

CONFIGURATION DESCRIPTION
 MSFC 581(0A49) 088 34-0 (BDPH)(VE)(VR)
 MSFC 531(0A49) 088 34-0 (BDPH)(VE)(VR)
 MSFC 531(0A49) 088 34-0 (BDPH)(VE)(VR)
 MSFC 531(0A49) 088 34-0 (BDPH)(VE)(VR)
 MSFC 581(0A49) 088 34-0 (BDPH)(VE)(VR)

SPDRBK DELRLO BOFLAP
 000 -10.000 -11.700
 55.000 -10.000 -11.700
 55.000 -10.000 -16.300
 55.000 -10.000 -16.300
 55.000 -10.000 -16.300

REFERENCE INFORMATION
 SPREF 2741.8000 SQ. FT
 LRREF 481.6480 IN.
 BRREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

SIDE FORCE DERIVATIVE WITH RESPECT TO RUDDER, DCY, IN



RUDDER EFFECTIVENESS BETA SWEEP DATA

(D) ALPHA = 15.00

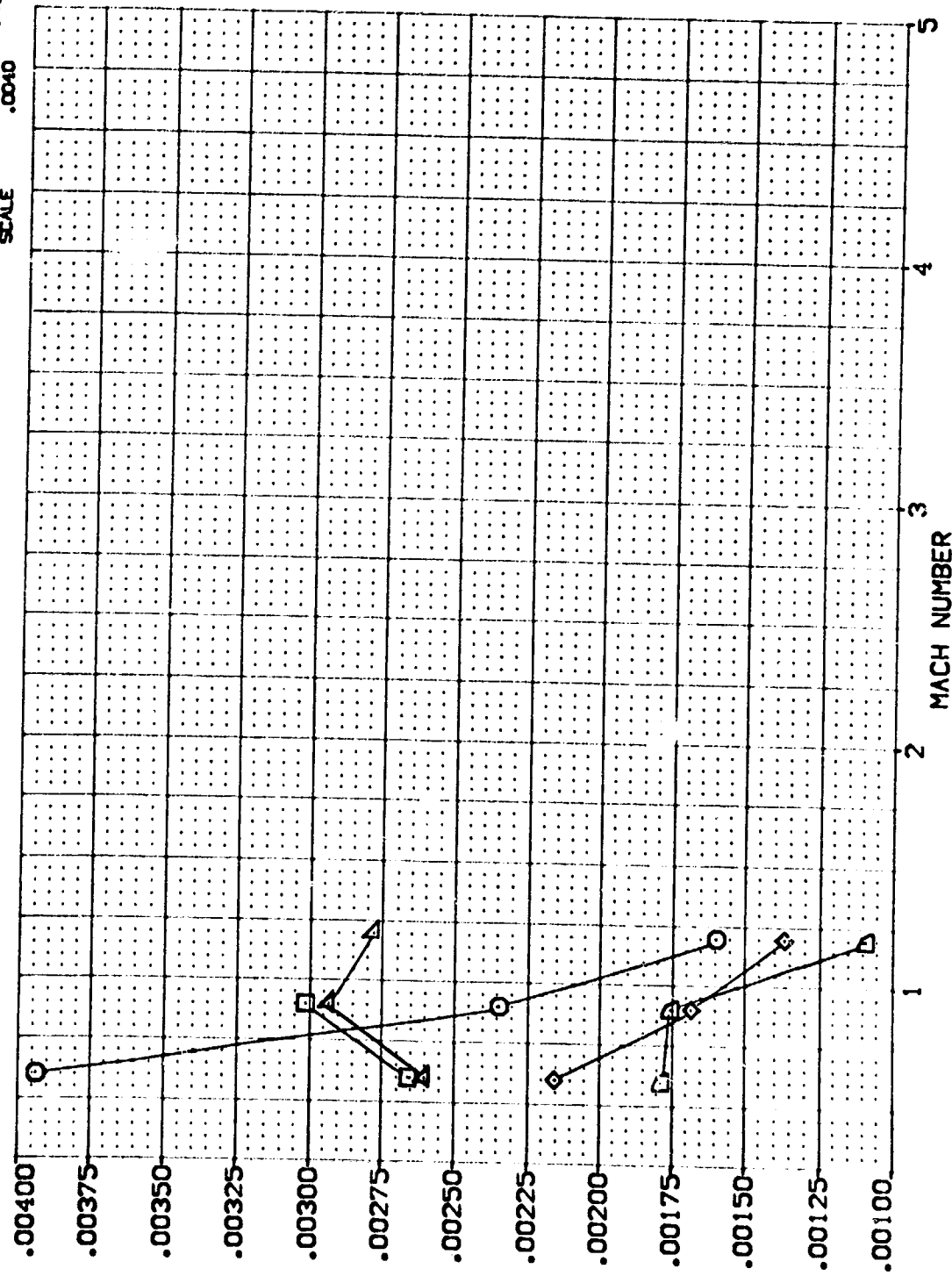
DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

(927049)	MSFC 581(CA49) DB 34-0 (BOFH)(VE)(VR)	SREF 2741.8000 SQ. FT
(927050)	MSFC 581(CA49) DB 34-0 (BOFH)(VE)(VR)	LREF 481.6480 IN.
(927051)	MSFC 581(CA49) DB 34-0 (BOFH)(VE)(VR)	BREF 936.7000 IN.
(927111)	MSFC 581(CA49) DB 34-0 (BOFH)(VE)(VR)	XMRP 1081.3000 IN.
(929113)	MSFC 581(CA49) DB 34-0 (BOFH)(VE)(VR)	YMRP .0000 IN.
(929114)	MSFC 581(CA49) DB 34-0 (BOFH)(VE)(VR)	ZMRP .0040 IN.

SPDRK DELRD BOFLAP SCALE

000	-10.000	-11.700	
55.000	-10.000	-11.700	
55.000	-10.000	-11.700	
55.000	-10.000	16.300	
55.000	-10.000	16.300	

SIDE FORCE DERIVATIVE WITH RESPECT TO RUDDER, DCY/DR



RUDDER EFFECTIVENESS BETA SWEEP DATA

(CJALPHA = 20.00

DATA SET 5882. CONFIGURATION DESCRIPTION

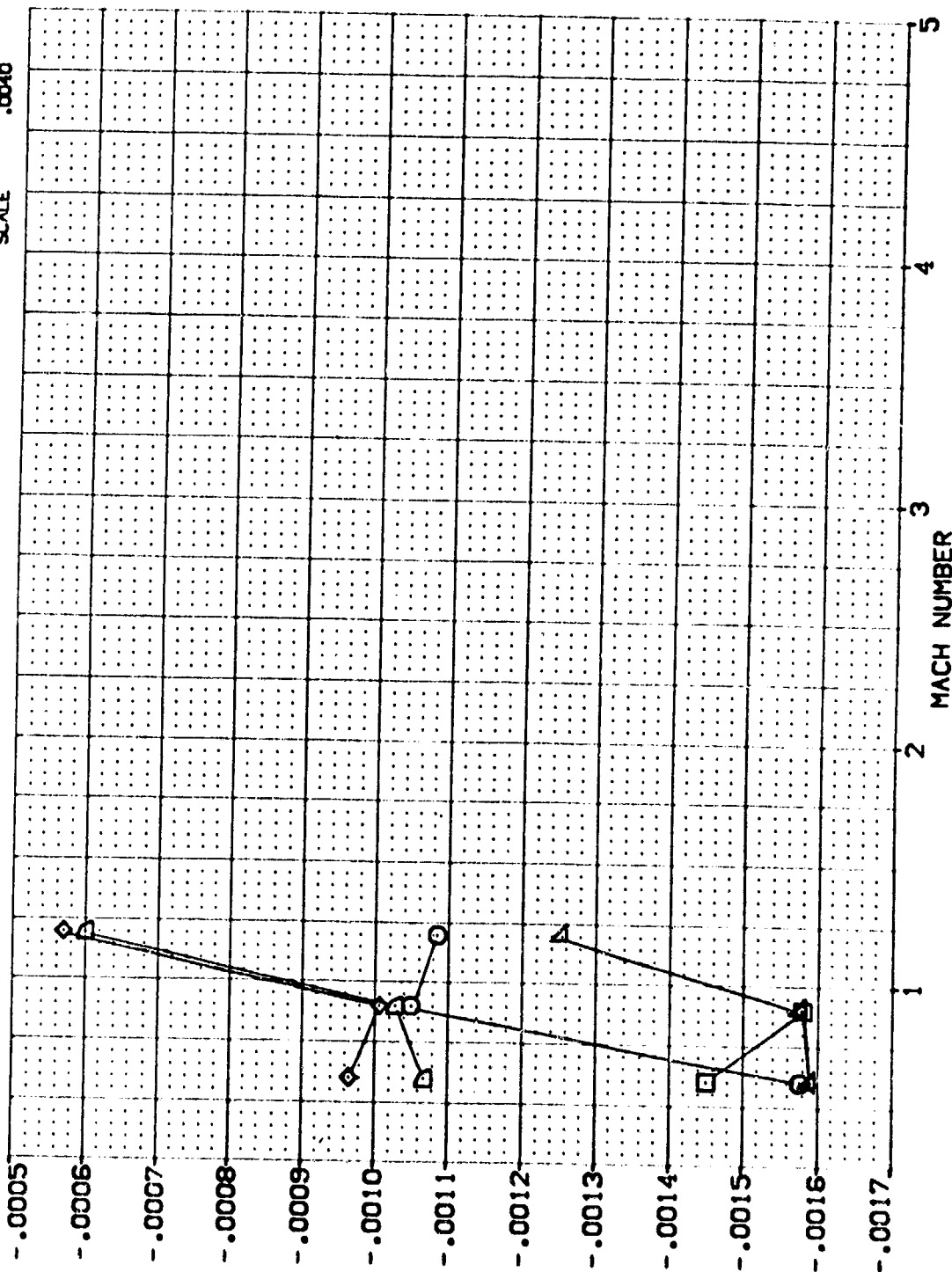
582049	581 (DA49)	DB 34-0	(BCH)(VE)(VR)
582050	581 (DA49)	DB 34-0	(BCH)(VE)(VR)
582051	581 (DA49)	DB 34-0	(BCH)(VE)(VR)
582111	581 (DA49)	DB 34-0	(BCH)(VE)(VR)
582112	581 (DA49)	DB 34-0	(BCH)(VE)(VR)
582113	581 (DA49)	DB 34-0	(BCH)(VE)(VR)
582114	581 (DA49)	DB 34-0	(BCH)(VE)(VR)

SPDRK DELRLO BOFLAP

0.000	-10.000	-11.700
55.000	-10.000	-11.700
85.000	-10.000	-11.700
55.000	-10.000	-16.300
85.000	-10.000	-16.300

REFERENCE INFORMATION

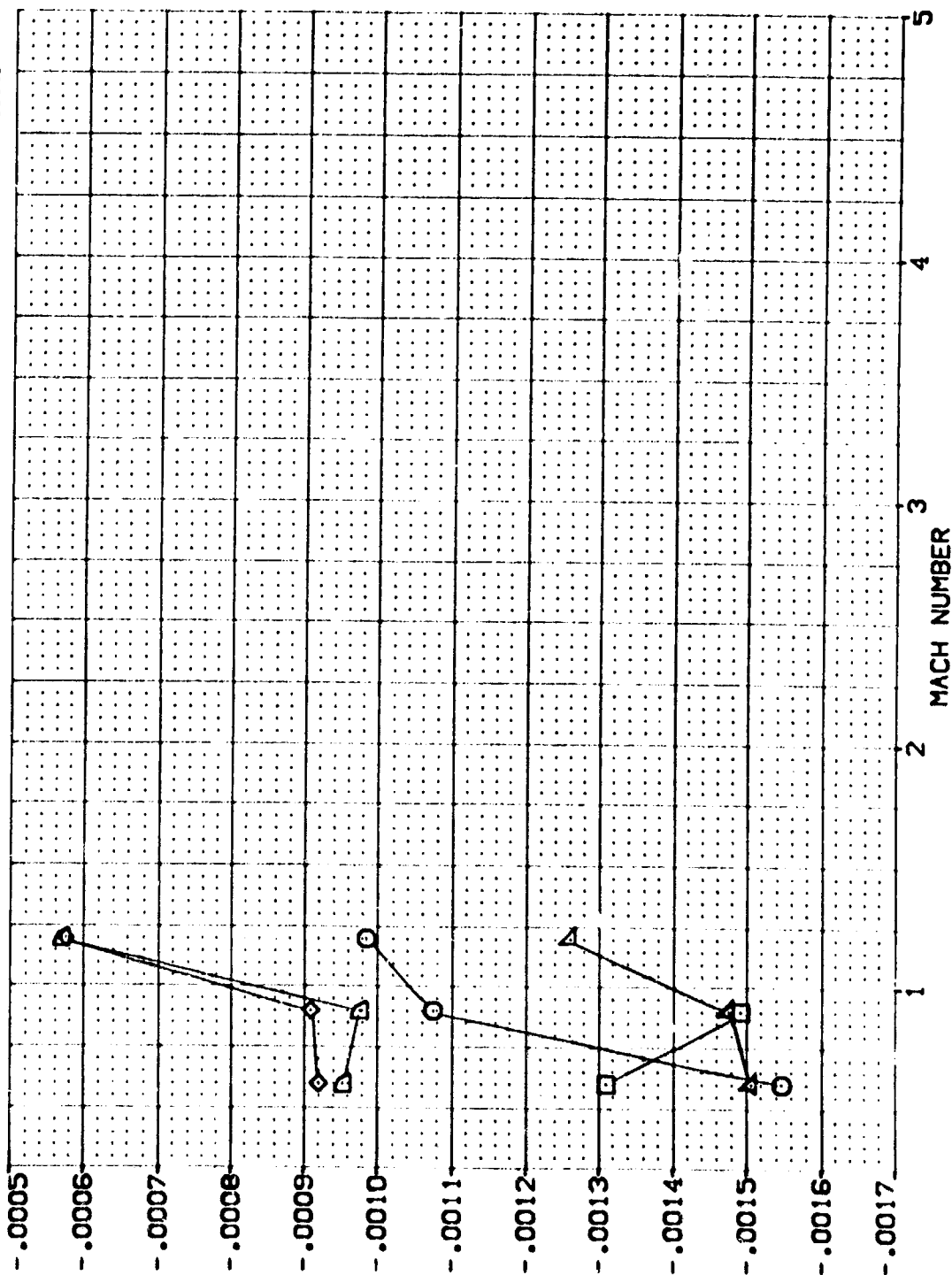
SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XMRP	1081.3500	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0040	



YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR

RUDDER EFFECTIVENESS BETA SWEEP DATA

(A) ALPHA = .00

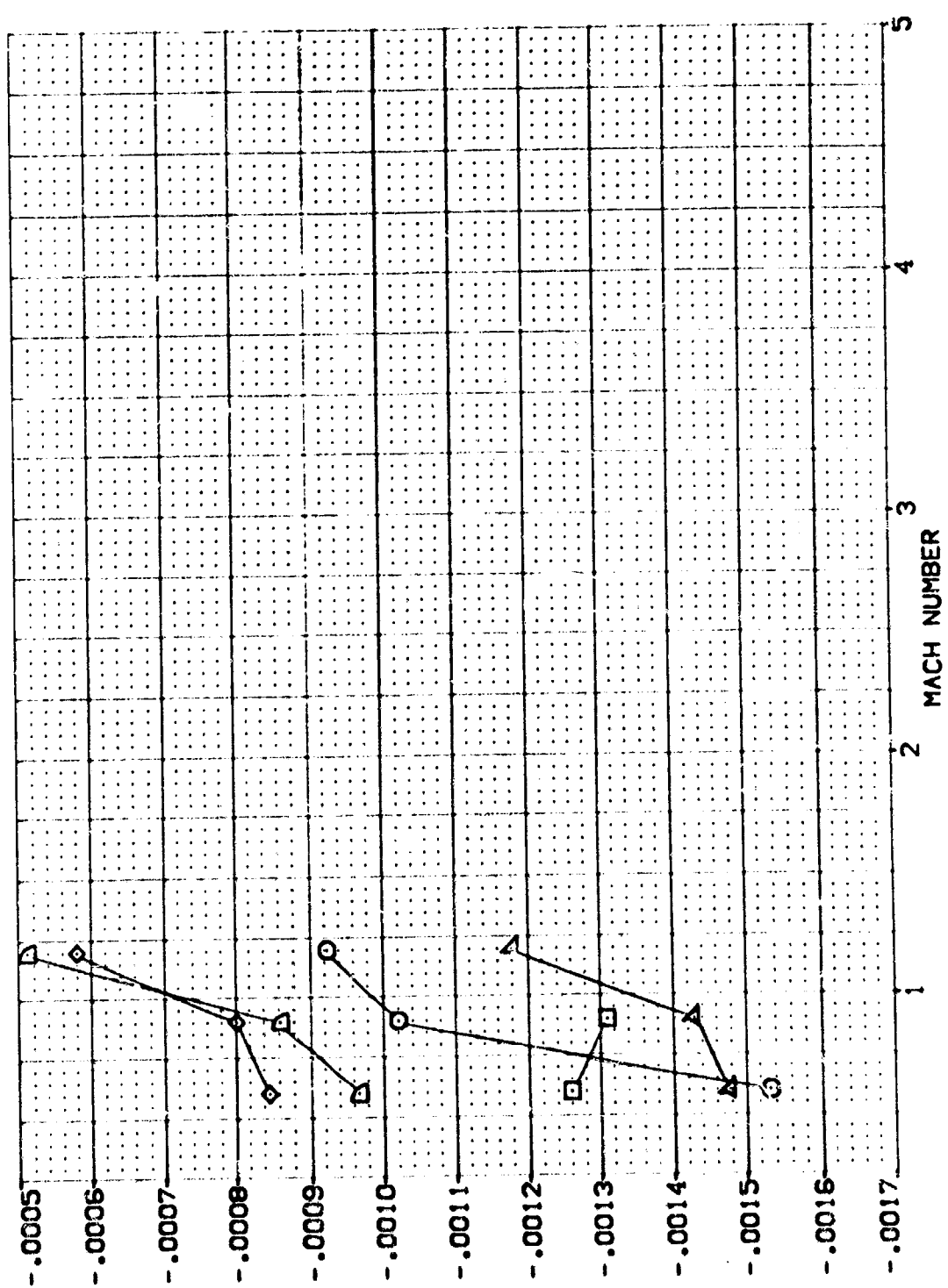
[illegible]

RUDDER EFFECTIVENESS BETA SWEEP DATA

(B)ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION SPDRK DELRID BDFLAP REFERENCE INFORMATION

[992049]	PSFC 581(CA49) D73 34-0 (BDFM)(VE)(VR)	000	-10.000	-11.700	SREF 2741.8000 SQ. FT
[992050]	PSFC 581(CA49) D73 34-0 (BDFM)(VE)(VR)	55.000	-10.000	-11.700	LREF 481.6480 IN.
[992051]	PSFC 581(CA49) D73 34-0 (BDFM)(VE)(VR)	85.000	-10.000	-11.700	BREF 935.7000 IN.
[992052]	PSFC 581(CA49) D73 34-0 (BDFM)(VE)(VR)	55.000	-10.000	16.300	XREF 1081.3500 IN.
[992053]	PSFC 581(CA49) D73 34-0 (BDFM)(VE)(VR)	55.000	-10.000	16.300	YREF 0.0000 IN.
[992054]	PSFC 581(CA49) D73 34-0 (BDFM)(VE)(VR)	85.000	-10.000	16.300	ZREF 0.0000 IN.
[992055]	PSFC 581(CA49) D73 34-0 (BDFM)(VE)(VR)	85.000	-10.000	16.300	SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

(CJALPHA = 10.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[992049] MFC 501 (CA49) CRB 34-0 (BCPH)(VE)(VR)

[992050] MFC 501 (CA49) CRB 34-0 (BCPH)(VE)(VR)

[992051] MFC 501 (CA49) CRB 34-0 (BCPH)(VE)(VR)

[992111] MFC 501 (CA49) CRB 34-0 (BCPH)(VE)(VR)

[992112] MFC 501 (CA49) CRB 34-0 (BCPH)(VE)(VR)

[992113] MFC 501 (CA49) CRB 34-0 (BCPH)(VE)(VR)

REFERENCE INFORMATION

SCALE 2741.8000 50. FT

REF 481.6480 IN.

BREF 936.7000 IN.

XMRP 1081.3900 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0040

SPDRK DELRLO 30FLAP

55.000 -10.000 -11.700

55.000 -10.000 -11.700

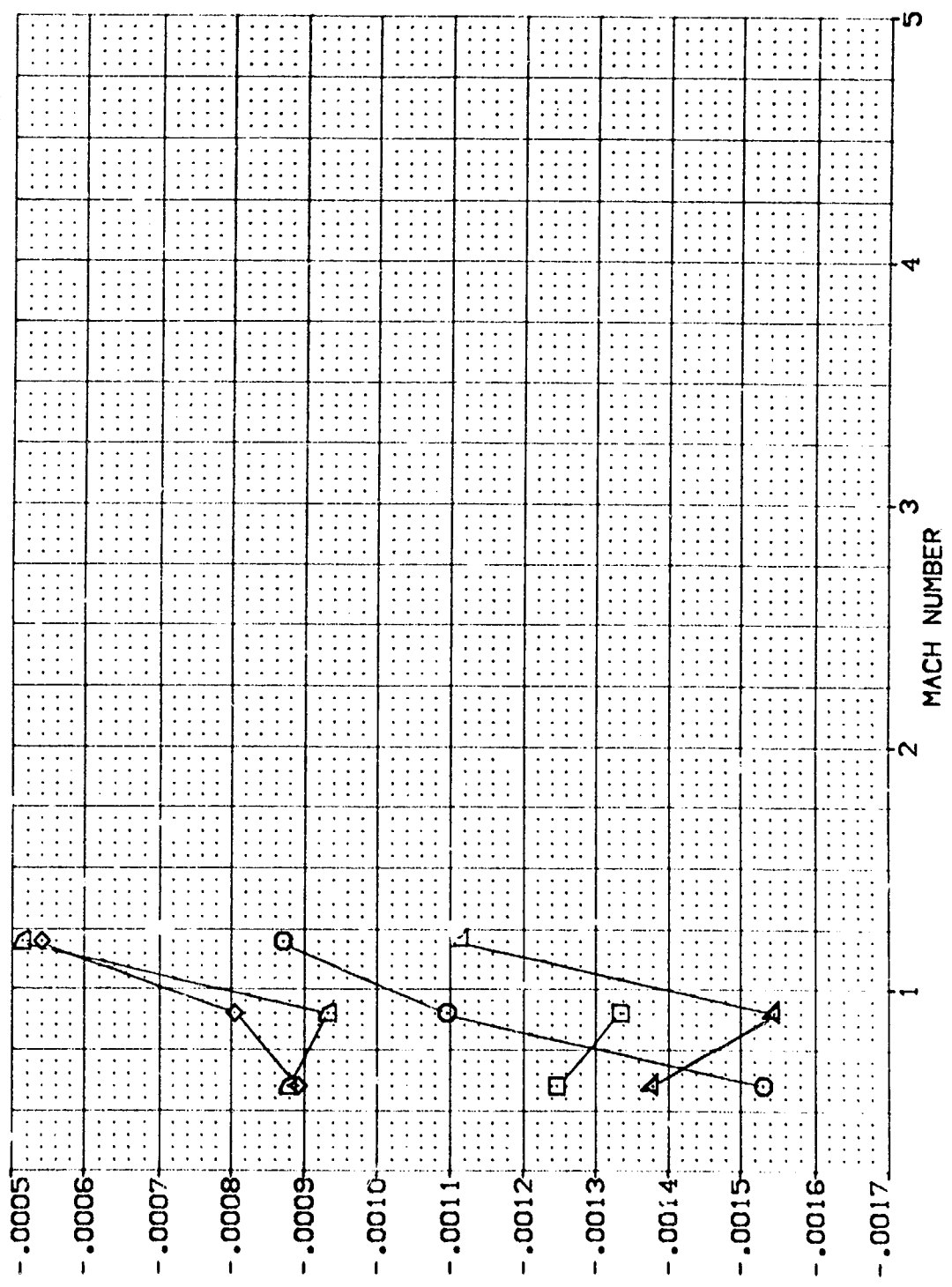
55.000 -10.000 -11.700

55.000 -10.000 -11.700

55.000 -10.000 -11.700

55.000 -10.000 -11.700

YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR



RUDDER EFFECTIVENESS BETA SWEEP DATA

(CO)ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

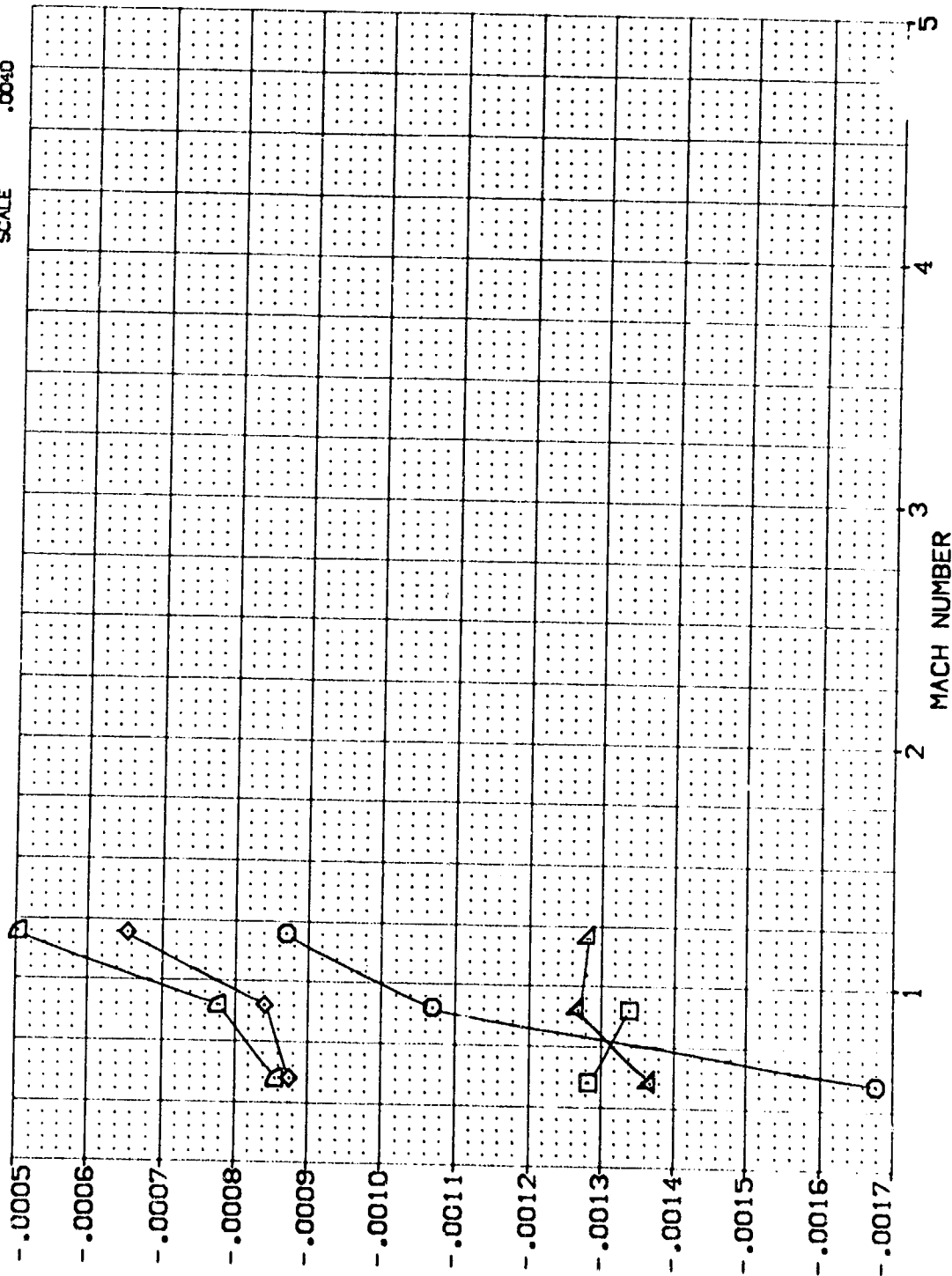
[992049]	MSFC 581(0A49) 0RB 34-0 (BCFM)(VE)(VR)
[992050]	MSFC 581(0A49) 0RB 34-0 (BCFM)(VE)(VR)
[992051]	MSFC 581(0A49) 0RB 34-0 (BCFM)(VE)(VR)
[992111]	MSFC 581(0A49) 0RB 34-0 (BCFM)(VE)(VR)
[992112]	MSFC 581(0A49) 0RB 34-0 (BCFM)(VE)(VR)
[992113]	MSFC 581(0A49) 0RB 34-0 (BCFM)(VE)(VR)
[992114]	MSFC 581(0A49) 0RB 34-0 (BCFM)(VE)(VR)

SPOILER DELRUD BOFLAP

0.00	-10.000	-11.700
55.000	-10.000	-11.700
65.000	-10.000	-11.700
55.000	-10.000	-16.300
65.000	-10.000	-16.300

REFERENCE INFORMATION

SREF	2741.8000	50. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XMRP	1081.3500	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0040	

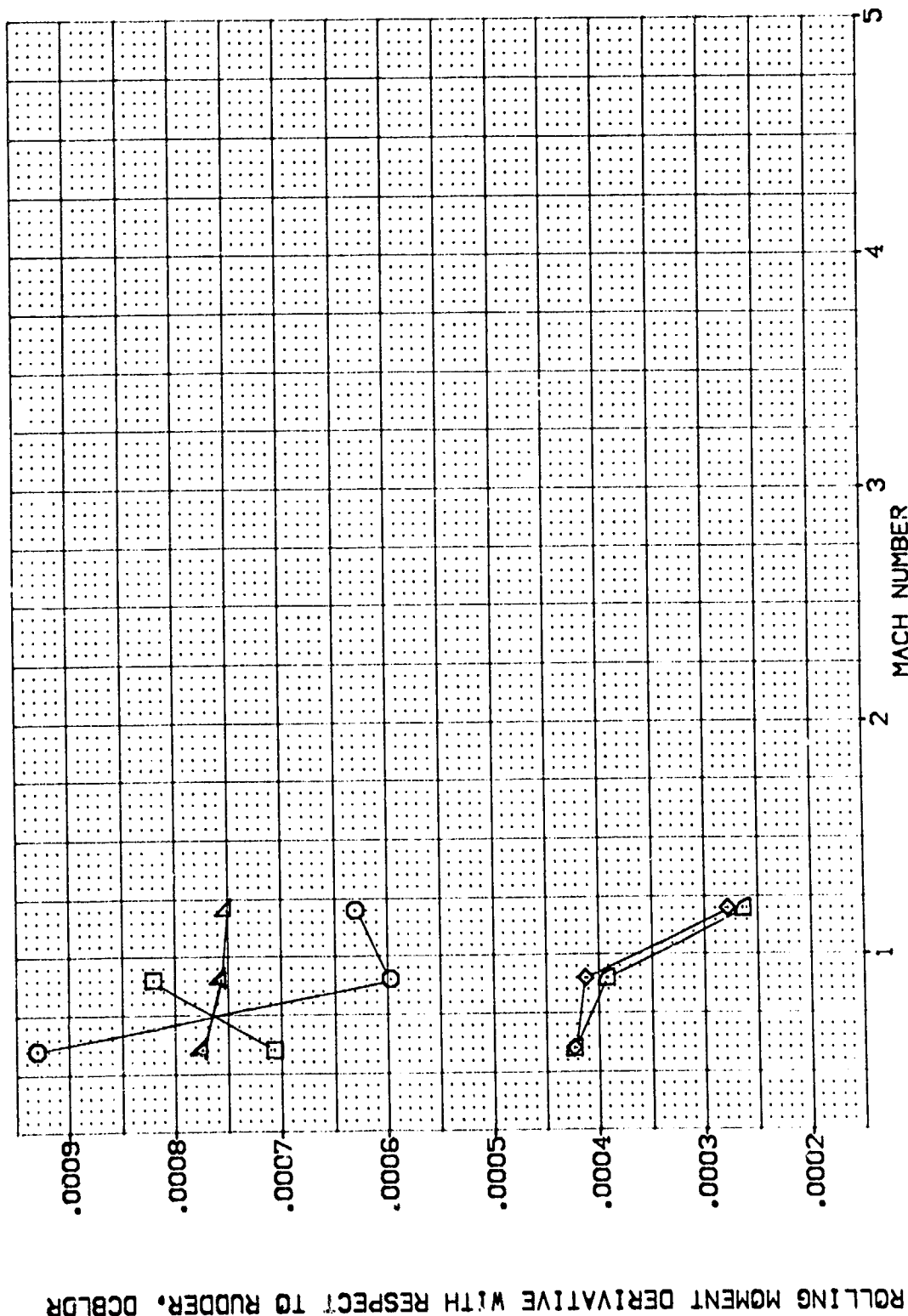


YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR

RUDDER EFFECTIVENESS BETA SWEEP DATA

(E)ALPHA = 20.00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
9020A9	38 34 00000000
9020B0	58 11 00000000
9020B1	58 11 00000000
9020B2	58 11 00000000
9020B3	58 11 00000000
9020B4	58 11 00000000
9020B5	58 11 00000000
9020B6	58 11 00000000
9020B7	58 11 00000000
9020B8	58 11 00000000
9020B9	58 11 00000000
9020BA	58 11 00000000
9020BB	58 11 00000000
9020BC	58 11 00000000
9020BD	58 11 00000000
9020BE	58 11 00000000
9020BF	58 11 00000000
9020C0	58 11 00000000
9020C1	58 11 00000000
9020C2	58 11 00000000
9020C3	58 11 00000000
9020C4	58 11 00000000
9020C5	58 11 00000000
9020C6	58 11 00000000
9020C7	58 11 00000000
9020C8	58 11 00000000
9020C9	58 11 00000000
9020CA	58 11 00000000
9020CB	58 11 00000000
9020CC	58 11 00000000
9020CD	58 11 00000000
9020CE	58 11 00000000
9020CF	58 11 00000000
9020D0	58 11 00000000
9020D1	58 11 00000000
9020D2	58 11 00000000
9020D3	58 11 00000000
9020D4	58 11 00000000
9020D5	58 11 00000000
9020D6	58 11 00000000
9020D7	58 11 00000000
9020D8	58 11 00000000
9020D9	58 11 00000000
9020DA	58 11 00000000
9020DB	58 11 00000000
9020DC	58 11 00000000
9020DD	58 11 00000000
9020DE	58 11 00000000
9020DF	58 11 00000000
9020E0	58 11 00000000
9020E1	58 11 00000000
9020E2	58 11 00000000
9020E3	58 11 00000000
9020E4	58 11 00000000
9020E5	58 11 00000000
9020E6	58 11 00000000
9020E7	58 11 00000000
9020E8	58 11 00000000
9020E9	58 11 00000000
9020EA	58 11 00000000
9020EB	58 11 00000000
9020EC	58 11 00000000
9020ED	58 11 00000000
9020EE	58 11 00000000
9020EF	58 11 00000000
9020F0	58 11 00000000
9020F1	58 11 00000000
9020F2	58 11 00000000
9020F3	58 11 00000000
9020F4	58 11 00000000
9020F5	58 11 00000000
9020F6	58 11 00000000
9020F7	58 11 00000000
9020F8	58 11 00000000
9020F9	58 11 00000000
9020FA	58 11 00000000
9020FB	58 11 00000000
9020FC	58 11 00000000
9020FD	58 11 00000000
9020FE	58 11 00000000
9020FF	58 11 00000000



RUDDER EFFECTIVENESS BETA SWEEP DATA

$$CAJALPHA = .00$$

ROLLING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCBLDR

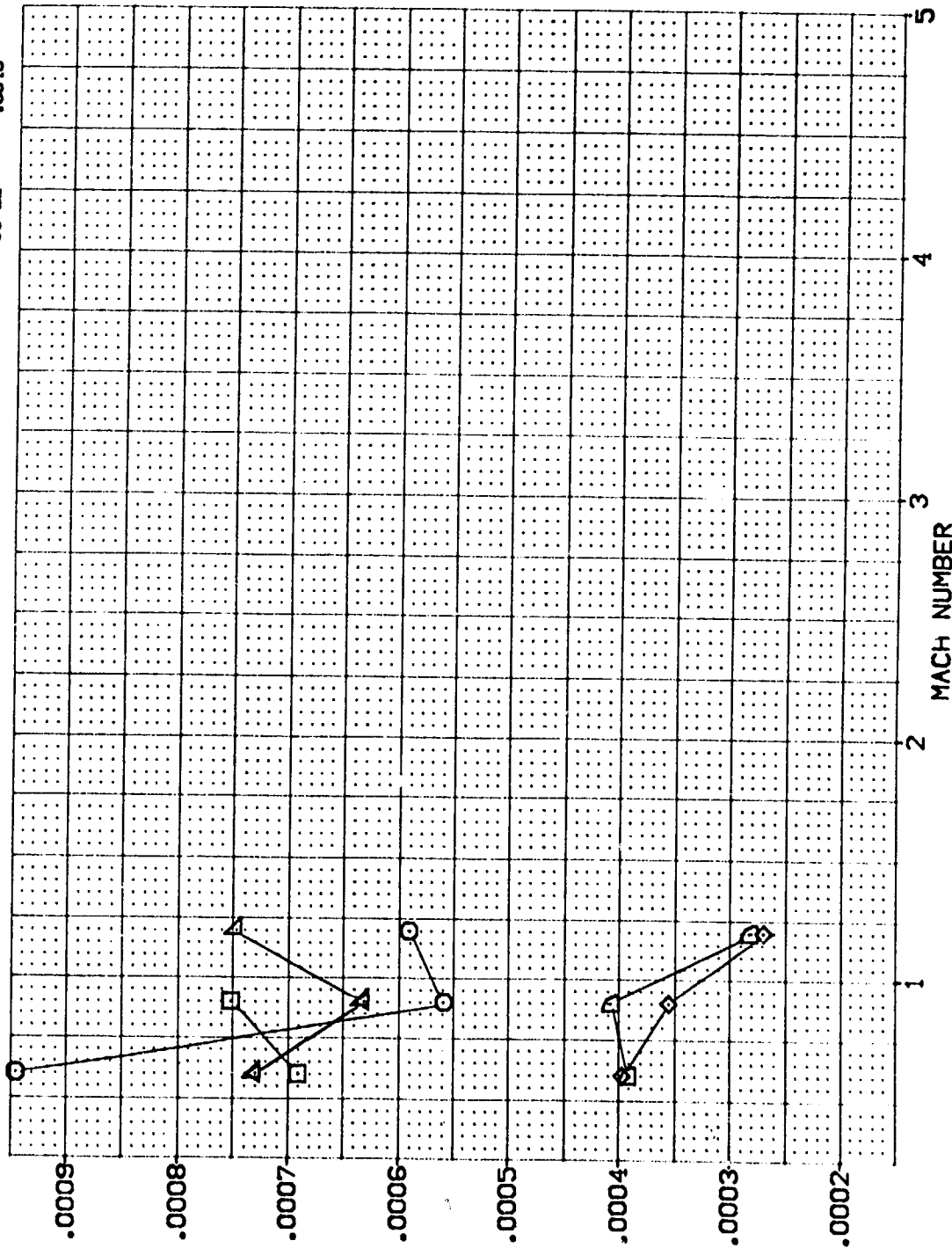
DATA SET SYMBOL
 [952049]
 [952050]
 [952051]
 [952052]
 [952053]
 [952054]
 [952055]

CONFIGURATION DESCRIPTION

MS-C 501 (DA49) CRB 34-0 (BCFM) (VE) (VR)
 MS-C 501 (DA49) CRB 34-0 (BCFM) (VE) (VR)
 MS-C 501 (DA49) CRB 34-0 (BCFM) (VE) (VR)
 MS-C 501 (DA49) CRB 34-0 (BCFM) (VE) (VR)
 MS-C 501 (DA49) CRB 34-0 (BCFM) (VE) (VR)
 MS-C 501 (DA49) CRB 34-0 (BCFM) (VE) (VR)
 MS-C 501 (DA49) CRB 34-0 (BCFM) (VE) (VR)

SPDRBK DELRUD BOFLAP
 .000 -10.000 -11.700
 55.000 -10.000 -11.700
 65.000 -10.000 -11.700
 55.000 -10.000 16.300
 65.000 -10.000 16.300

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

(B) ALPHA = 5.00

DATA SET SYMBL. CONFIGURATION DESCRIPTION

192049) 192C 501 (CA49) CR3 34-0 (BCFM) (VE) (VR)
 192050) 192C 501 (CA49) CR3 34-0 (BCFM) (VE) (VR)
 192051) 192C 501 (CA49) CR3 34-0 (BCFM) (VE) (VR)
 192111) 192C 501 (CA49) CR3 34-0 (BCFM) (VE) (VR)
 192113) 192C 501 (CA49) CR3 34-0 (BCFM) (VE) (VR)
 192114) 192C 501 (CA49) CR3 34-0 (BCFM) (VE) (VR)

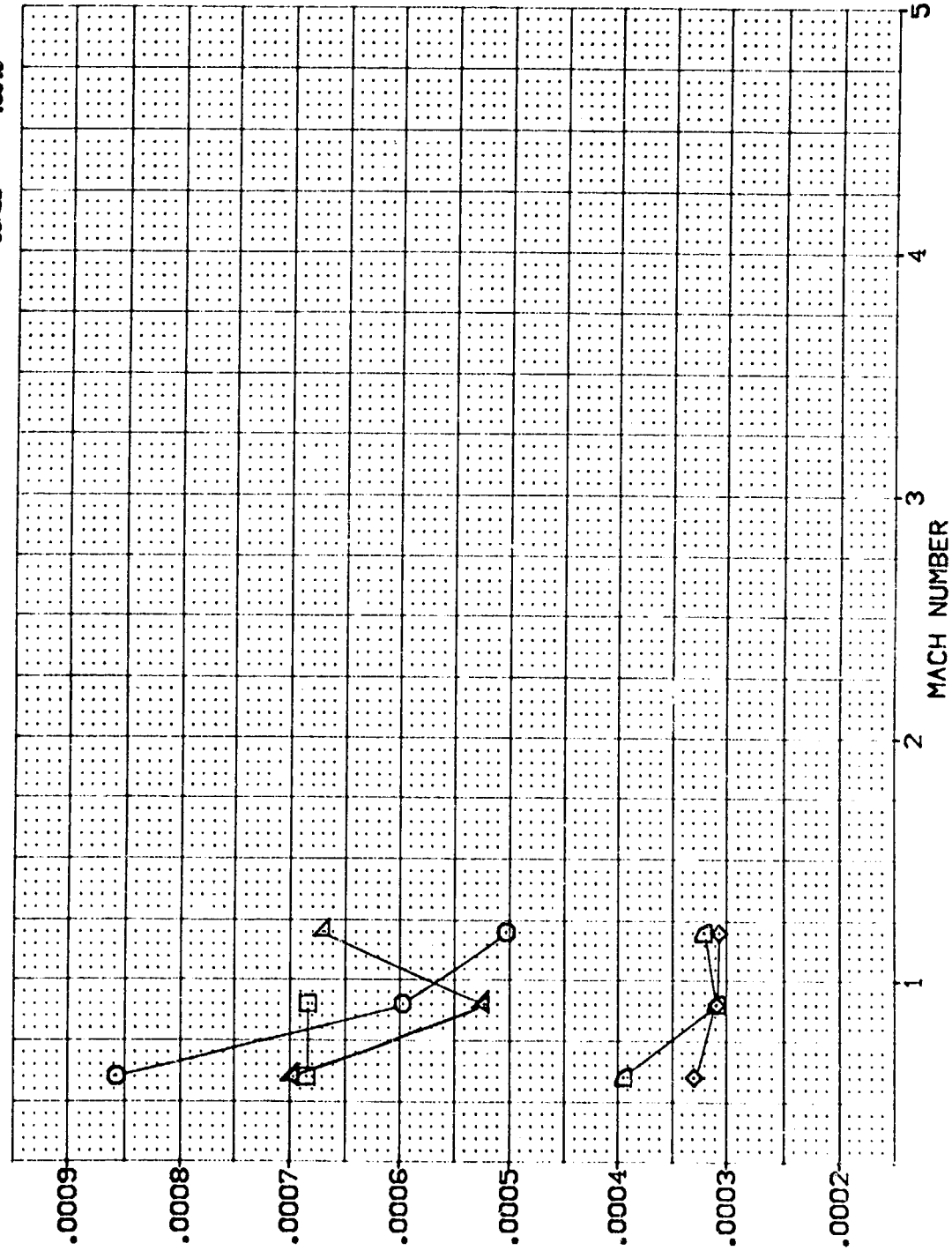
SPOBRK .000
 55.000
 55.000
 55.000
 55.000

DELRUD -10.000
 -10.000
 -10.000
 -10.000
 -10.000

BOFLAP -11.700
 -11.700
 -11.700
 16.300
 16.300

SREF 2741.8000 90. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

ROLLING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCBLDR



RUDDER EFFECTIVENESS BETA SWEEP DATA

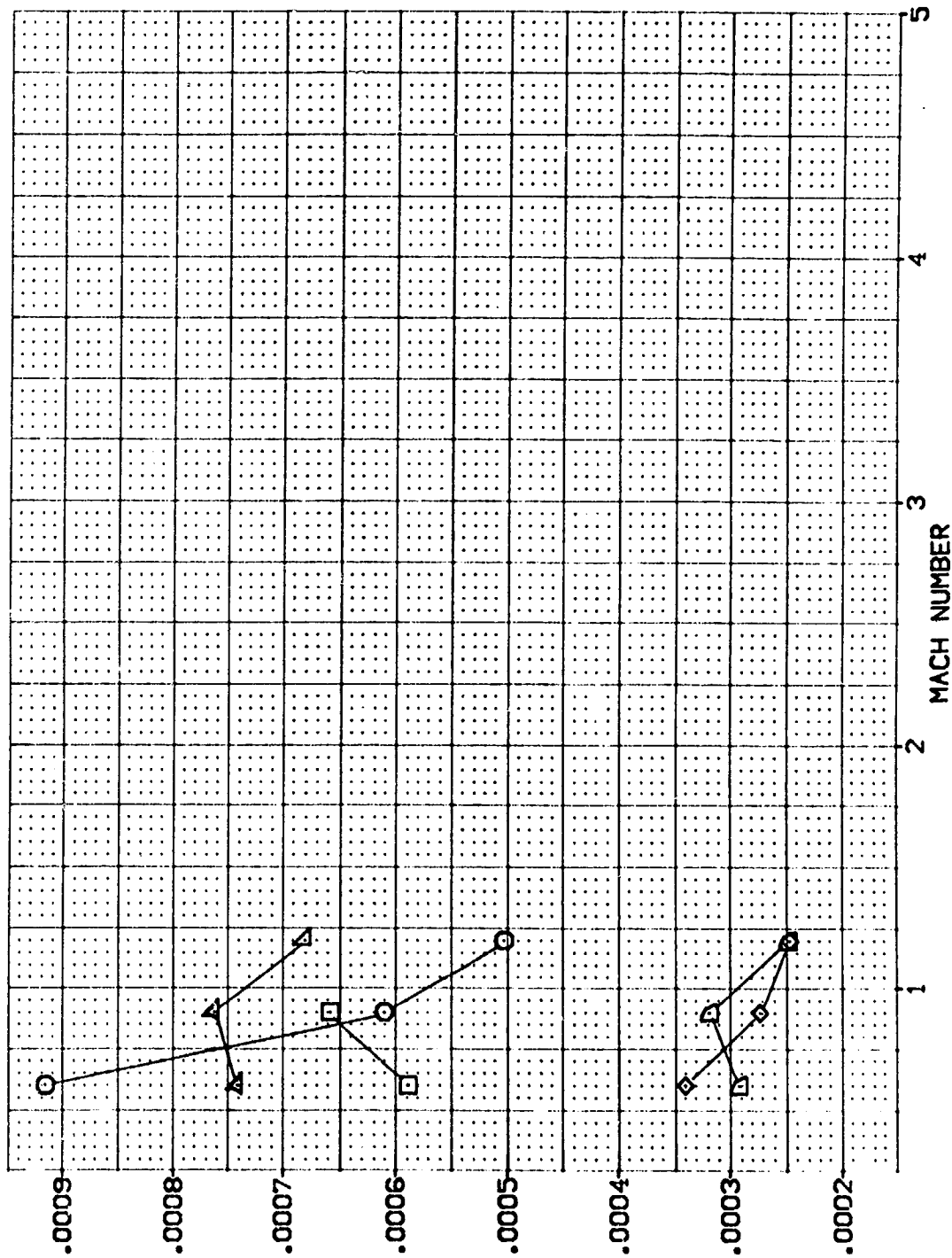
(CJ)ALPHA = 10.00

ROLLING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCBLDR

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [992049] S81 (CA49) DBB 34-0 (BCFM) (VE) (VR)
 [992050] S81 (CA49) DBB 34-0 (BCFM) (VE) (VR)
 [992051] S81 (CA49) DBB 34-0 (BCFM) (VE) (VR)
 [992111] S81 (CA49) DBB 34-0 (BCFM) (VE) (VR)
 [992113] S81 (CA49) DBB 34-0 (BCFM) (VE) (VR)
 [992114] S81 (CA49) DBB 34-0 (BCFM) (VE) (VR)

SPDRBK DELRUD BOFLAP
 .000 -10.000 -11.700
 55.000 -10.000 -11.700
 85.000 -10.000 -16.300
 55.000 -10.000 -16.300
 85.000 -10.000 -16.300

REFERENCE INFORMATION
 SREF 2741.6000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



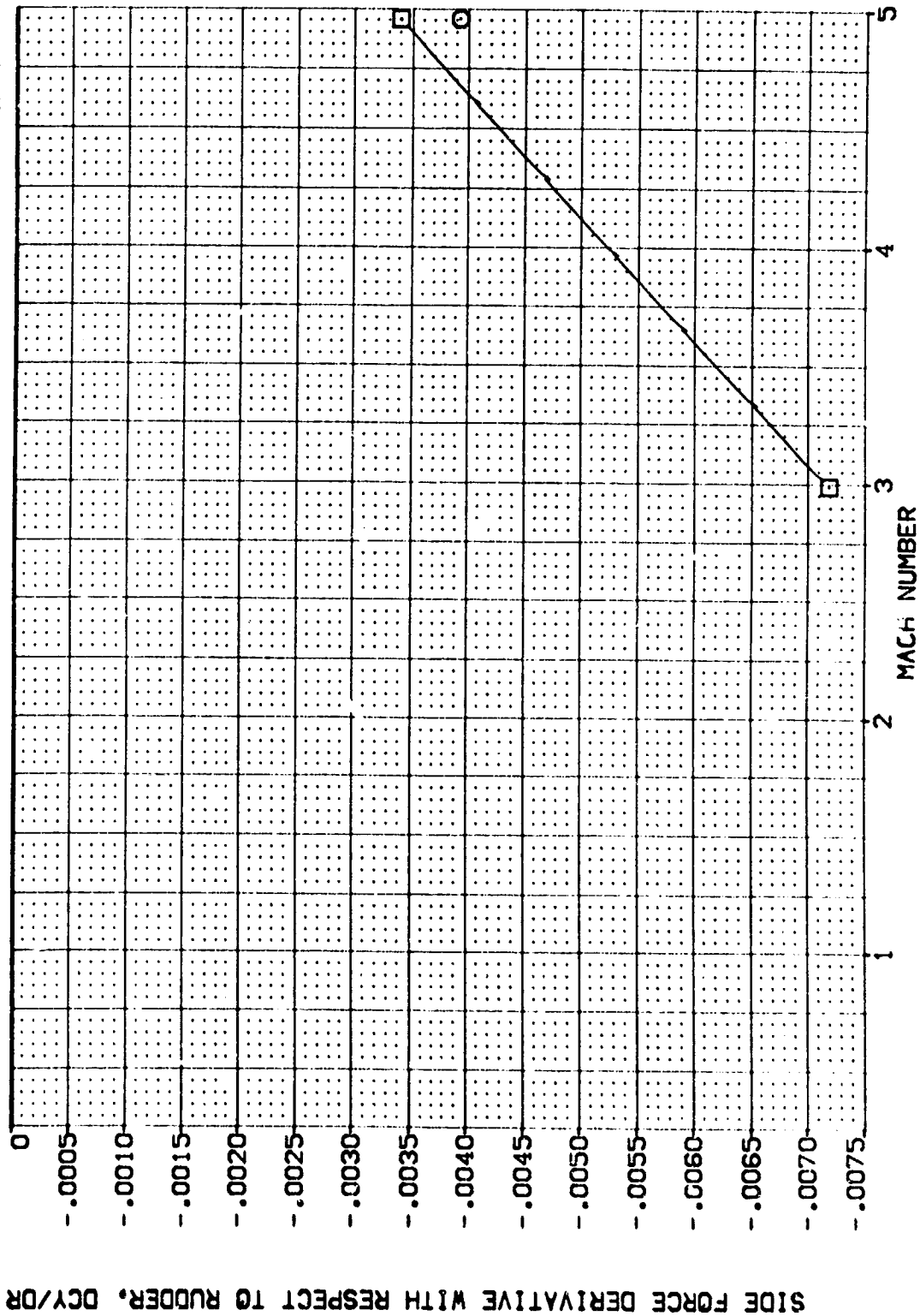
RUDDER EFFECTIVENESS BETA SWEEP DATA

(C) ALPHA = 15.00

DATA SET SYMBOL { 992124 } □
 { 992123 }
 CONFIGURATION DESCRIPTION
 MSFC 581(0A49) 088 34-0 (BOEM)(VE)(VR)
 MSFC 581(0A49) 088 34-0 (BOEM)(VE)(VR)

SPOBRK 25.000
 55.000
 DELRLO .000
 BOFLAP -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

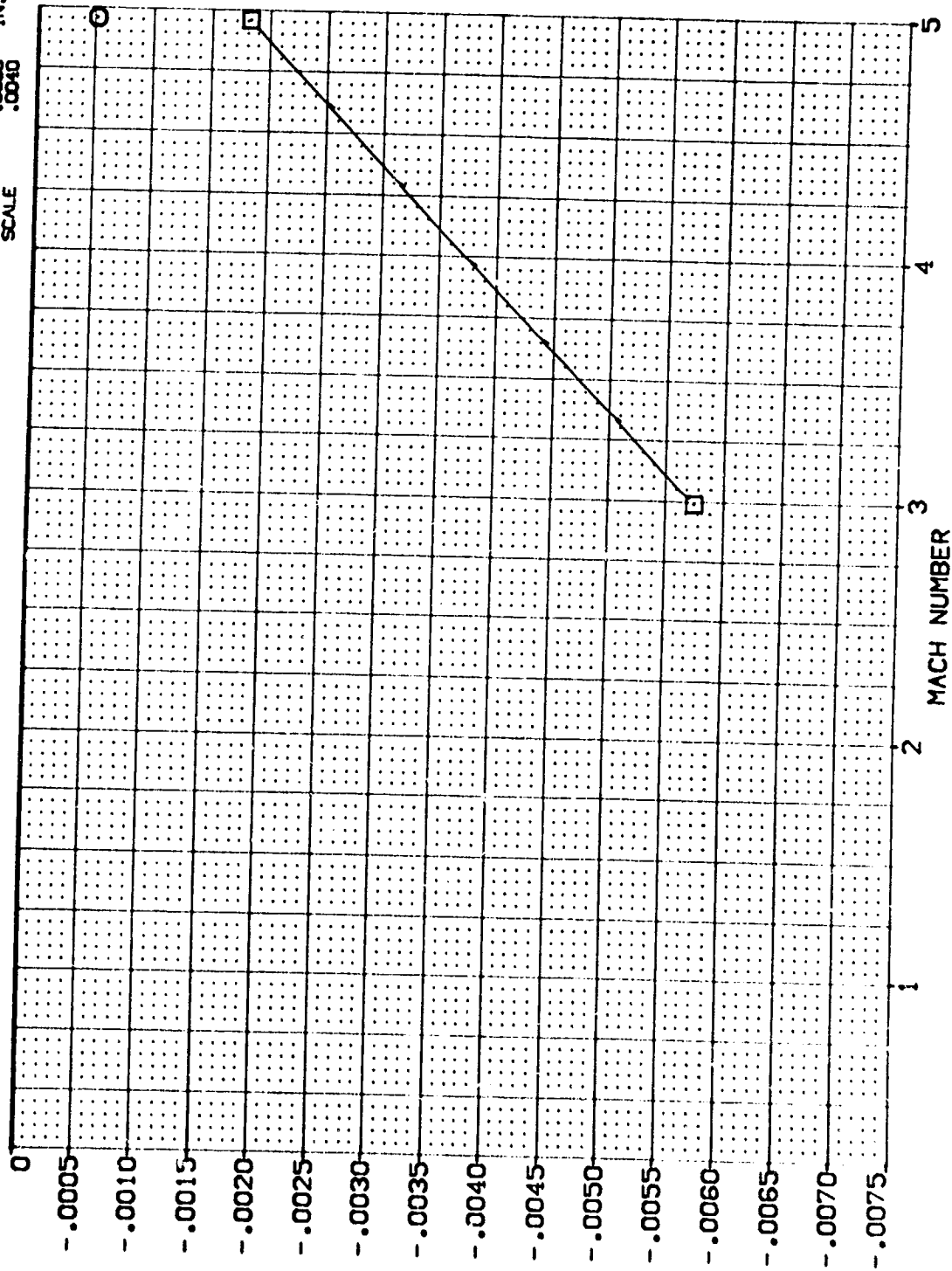
(A) ALPHA = 20.00

SIDE FORCE DERIVATIVE WITH RESPECT TO RUDDER, DCY/DR

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (882124) ☐ HSC 581(0A49) ORB 34-0 (BCH)(VE)(VR)
 (882123) ☐ HSC 581(0A49) ORB 34-0 (BCH)(VE)(VR)

SPOBRK DELRLO BOFLAP
 25.000 .000 -11.700
 65.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



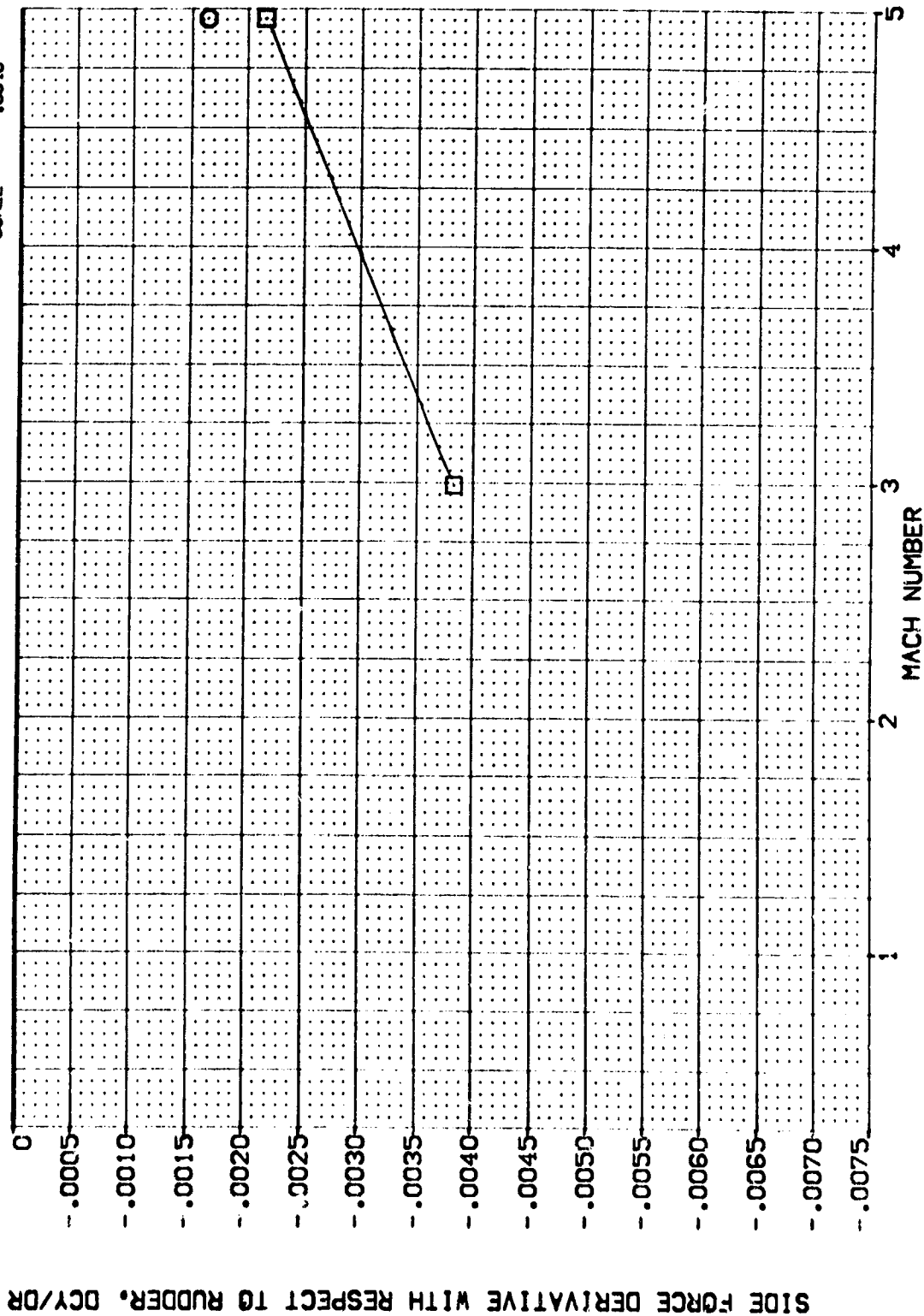
RUDDER EFFECTIVENESS BETA SWEEP DATA

(B)ALPHA = 25.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {992124} □ MSFC 581(0A49) 038 34-0 (BOFH)(VE)(VR)
 {992123} □ MSFC 581(0A49) 038 34-0 (BOFH)(VE)(VR)

SPOBRK DELRLO BOFLAP
 25.000 .000 -11.700
 85.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

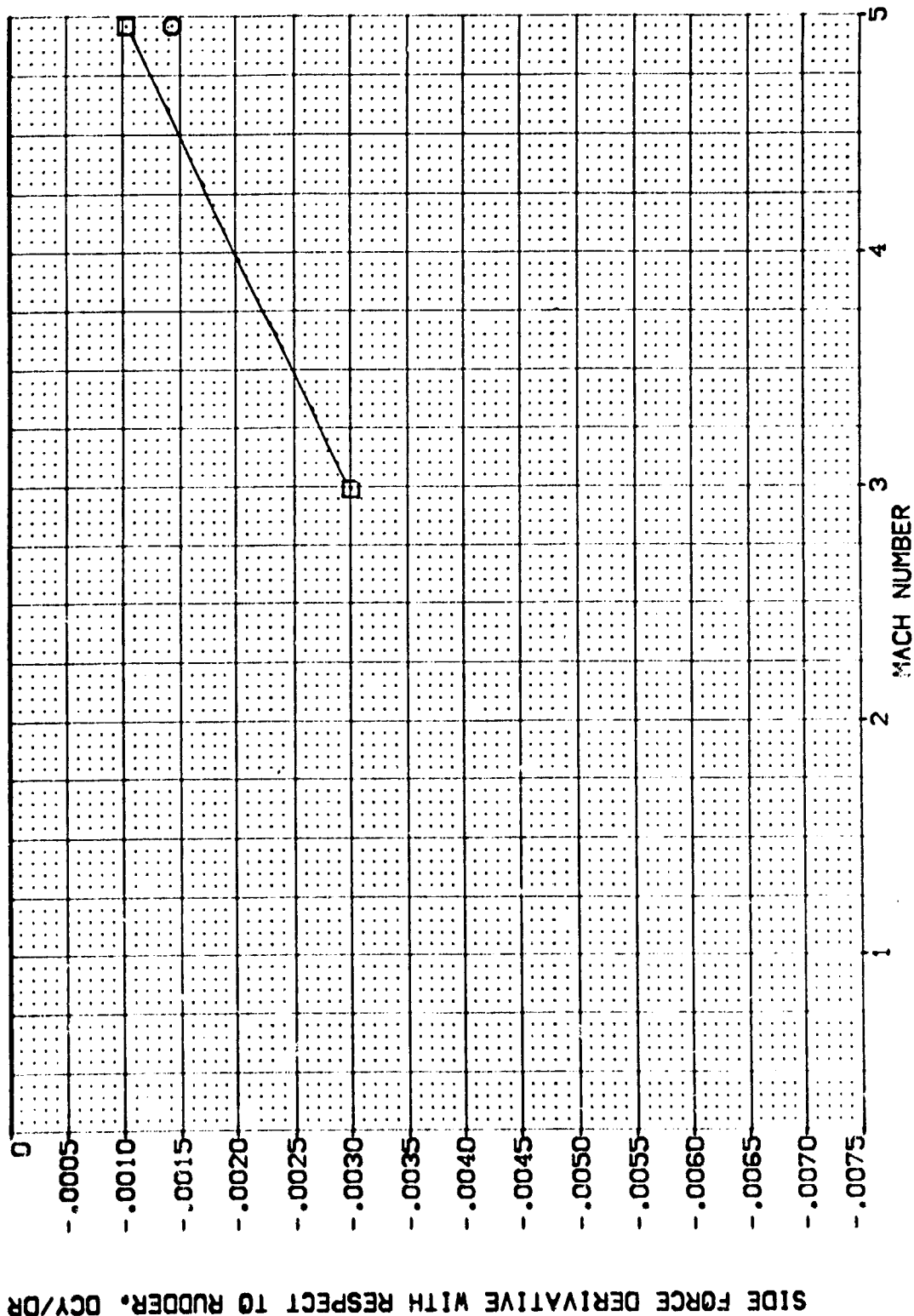
(C) ALPHA = 30.00

DATA SET SYMBOL: 8
 (922124)
 (922123)

CONFIGURATION DESCRIPTION
 HS-C 581(045) 078 3A-0 (BOM)(VE)(VR)
 HS-C 581(045) 078 3A-0 (BOM)(VE)(VR)

SPDRK DELRLO BDFLAP
 25.000 .000 -11.700
 65.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

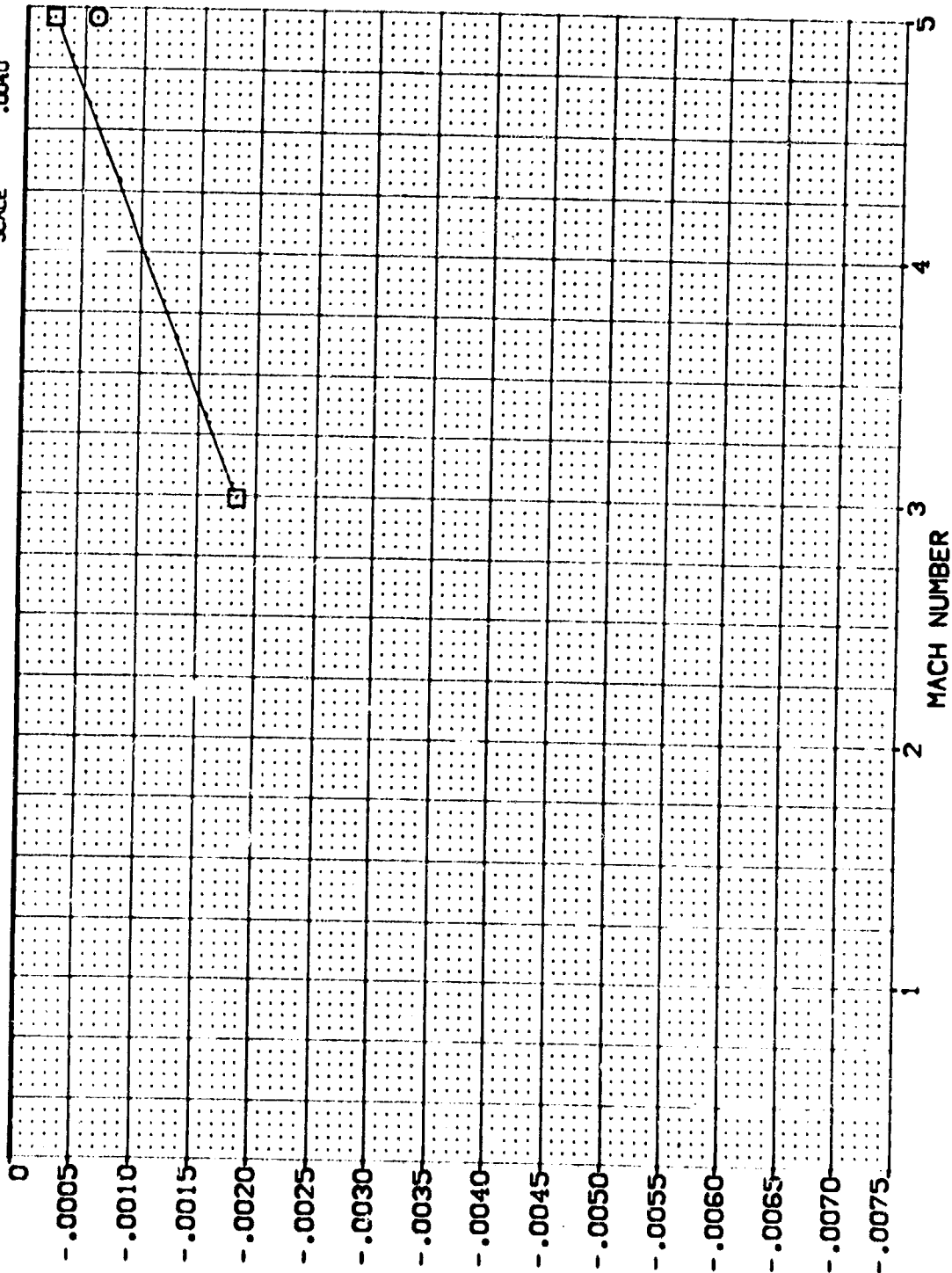
(C) ALPHA = 35.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {952124} □ HSC 501(0A19) 018 34-0 (BDFM)(VE)(VR)
 {952123} □ HSC 501(0A19) 018 34-0 (BDFM)(VE)(VR)

SPOBRK DELRLO BOFLAP
 25.000 .000 -11.700
 65.002 .000 -11.700

REFERENCE INFORMATION
 SPREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BRREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

SIDE FORCE DERIVATIVE WITH RESPECT TO RUDDER, DCY/DR



RUDDER EFFECTIVENESS BETA SWEEP DATA

(CE)ALPHA = 40.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(952)24) 0 HSC 581(8A)9) 08 34-0 (BOFH)(VE)(VR)

(952)23) 0 HSC 581(8A)9) 08 34 0 (BOFH)(VE)(VR)

SPDRK CELRD BOFLAP

25.000 .000 -11.700

65.000 .000 -11.700

REFERENCE INFORMATION

SREF 2741.8700 SQ. FT

LREF 481.6480 IN.

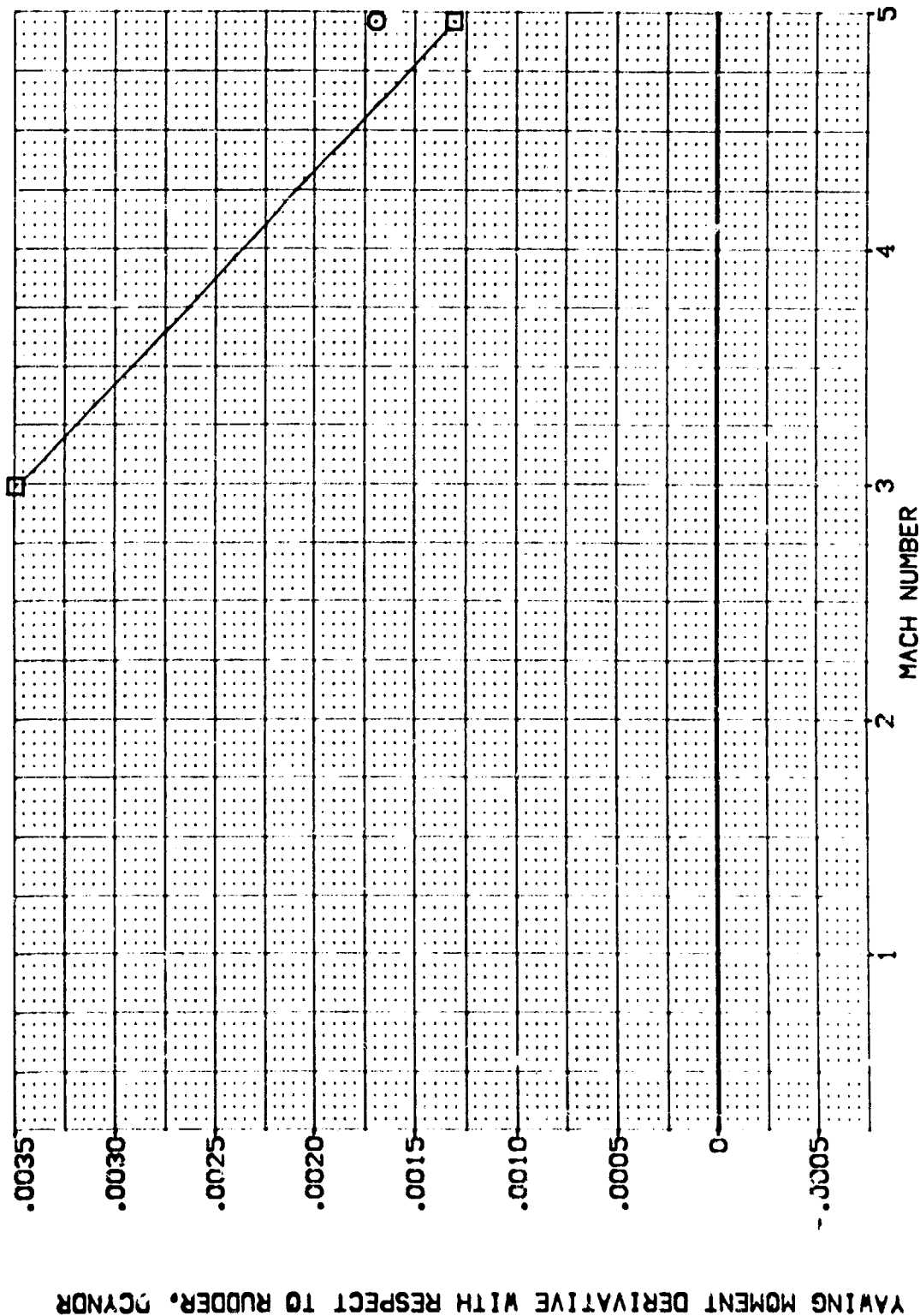
BREF 936.7000 IN.

XMRP 1081.3500 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0040



YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, CYNDR

RUDDER EFFECTIVENESS BETA SWEEP DATA

(A)ALPHA = 20.00

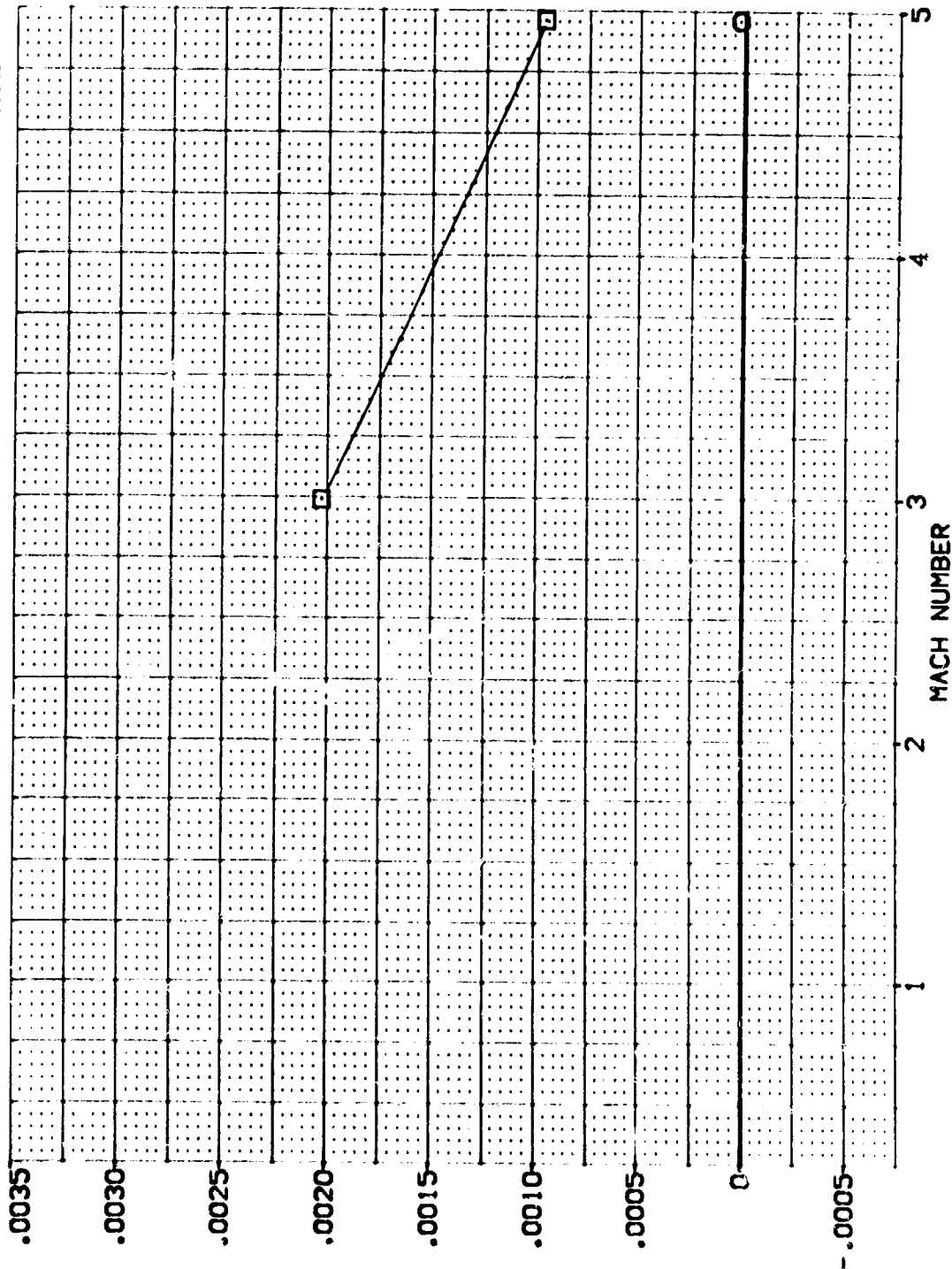
DATA SET SYMBOL: []
 [592124]
 [592173]

CONFIGURATION DESCRIPTION

MSFC 581(CA49) 078 34-0 (BDFM)(VE)(VR)
 MSFC 581(CA49) 078 34-0 (BDFM)(VE)(VR)

SPOBRK DELRLO BDFLAP
 25.000 .000 -11.700
 85.000 .000 -11.700

REFERENCE INFORMATION
 SREF 741.8000 SQ. FT
 LREF 181.6460 IN.
 BREF 936.7000 IN.
 YMRP 1081.3500 IN.
 ZMRP .0000 IN.
 SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

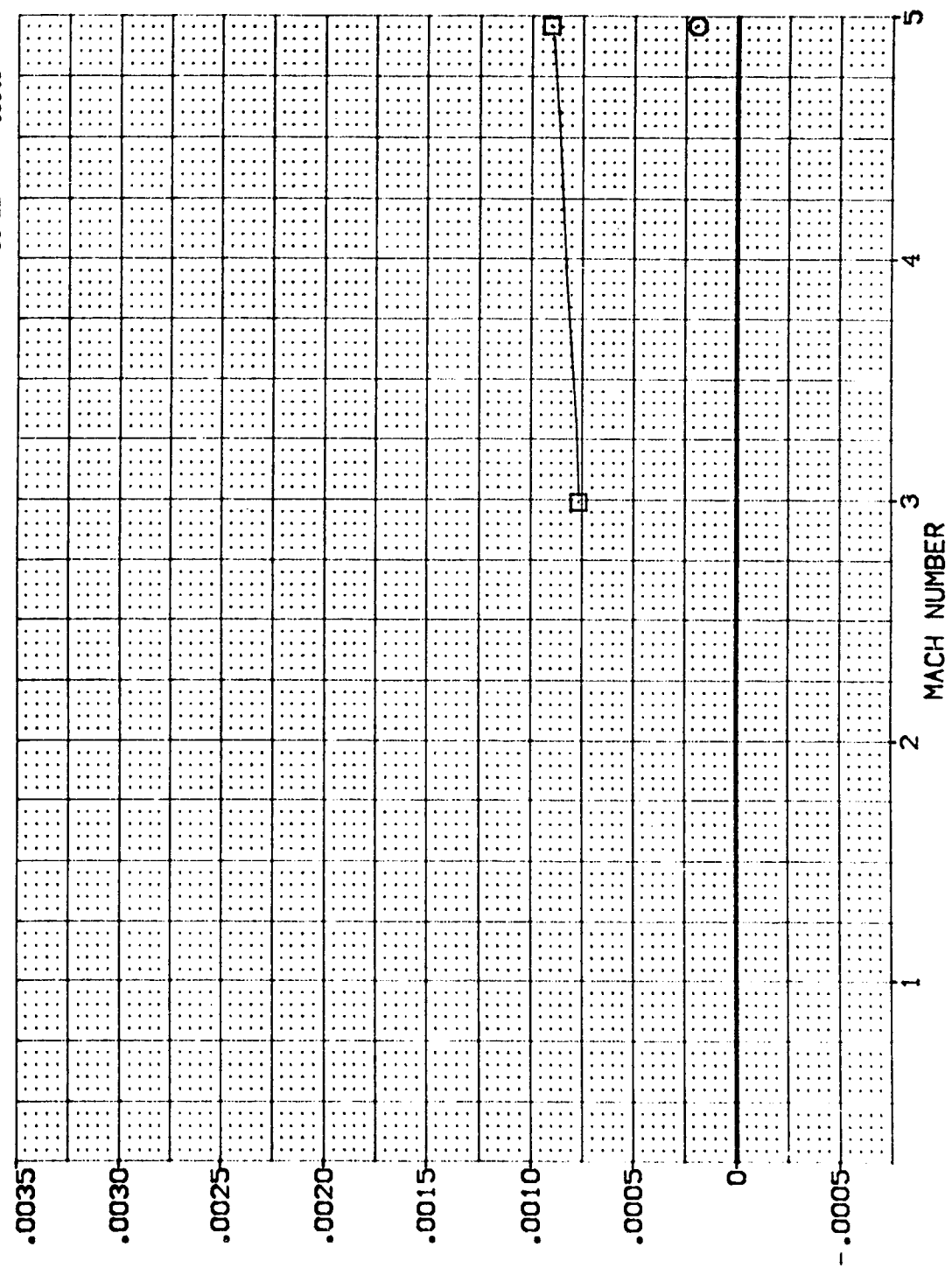
(BJALPHA = 25.00)

C-2

DATA SET SYMBOL: [982124] [982123] CONFIGURATION DESCRIPTION: M5C 581(0449) 058 34-0 (BOFH)(VE)(VR) M5C 581(0449) 058 34-0 (BOFH)(VE)(VR)

SPDRK DELRD BOFLAP 25.000 .000 -11.700 65.000 .000 -11.700


REFERENCE INFORMATION: SREF 2741.8000 SQ: FT LREF 481.6480 IN: BREF 936.7000 IN: XMRP 1081.350 IN: YMRP .0000 IN: ZMRP .0000 IN: SCALE .0010



YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR

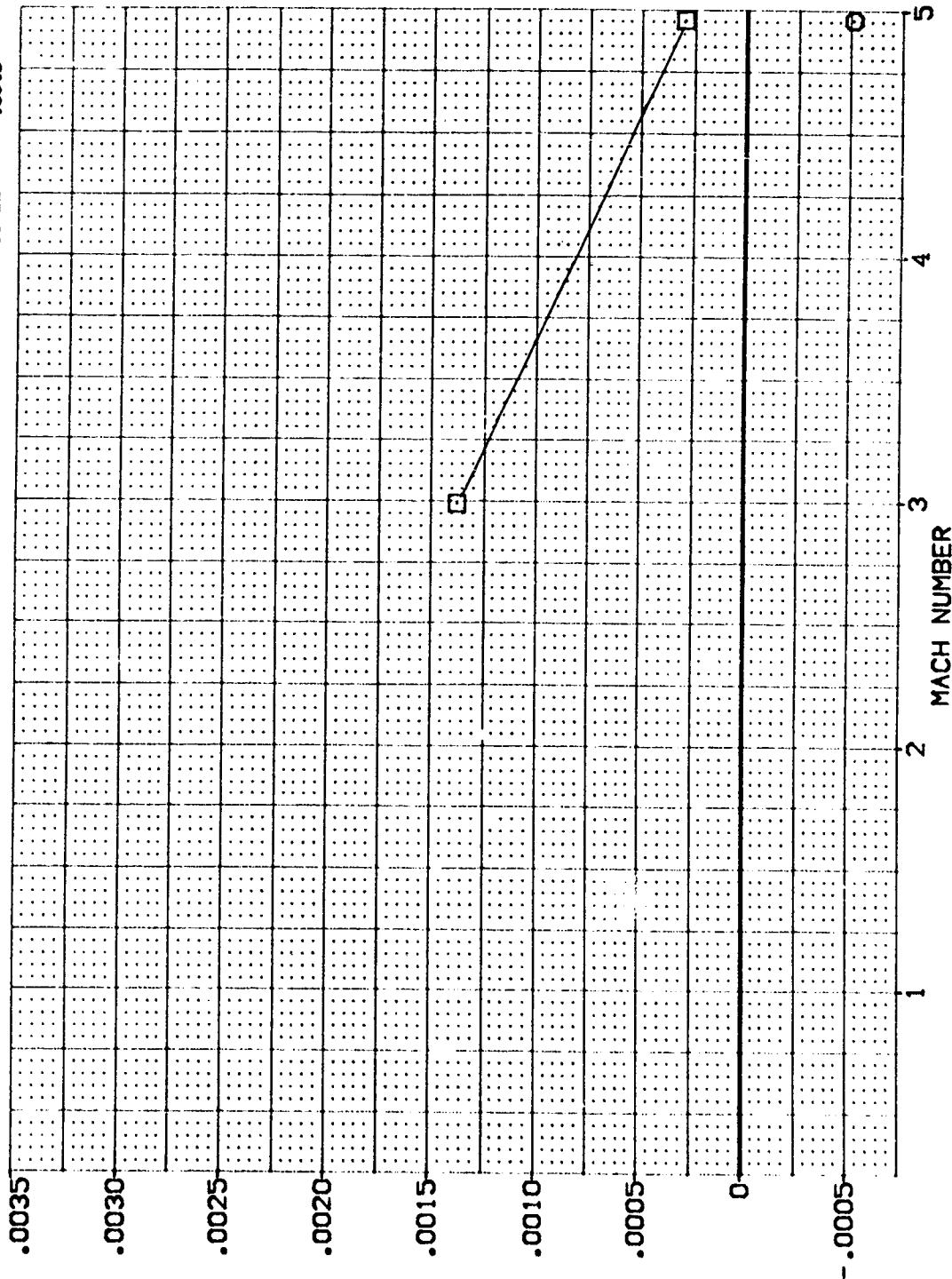
RUDDER EFFECTIVENESS BETA SWEEP DATA

[CJALPHA = 30.00

DATA SET SYMBOL [992124] [992123]  CONFIGURATION DESCRIPTION MSFC 591(0A49) 0RB 34-0 (BCFM)(VE)(VR) MSFC 591(0A49) 0RB 34-0 (BCFM)(VE)(VR)

SPDBRK 25.000 65.000 DELRUO .000 .000 BDFLAP -11.700 -11.700

REFERENCE INFORMATION SREF 2741.8000 SQ. FT LREF 481.6480 IN. BRREF 936.7000 IN. XMRP 1081.3900 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0040



YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR

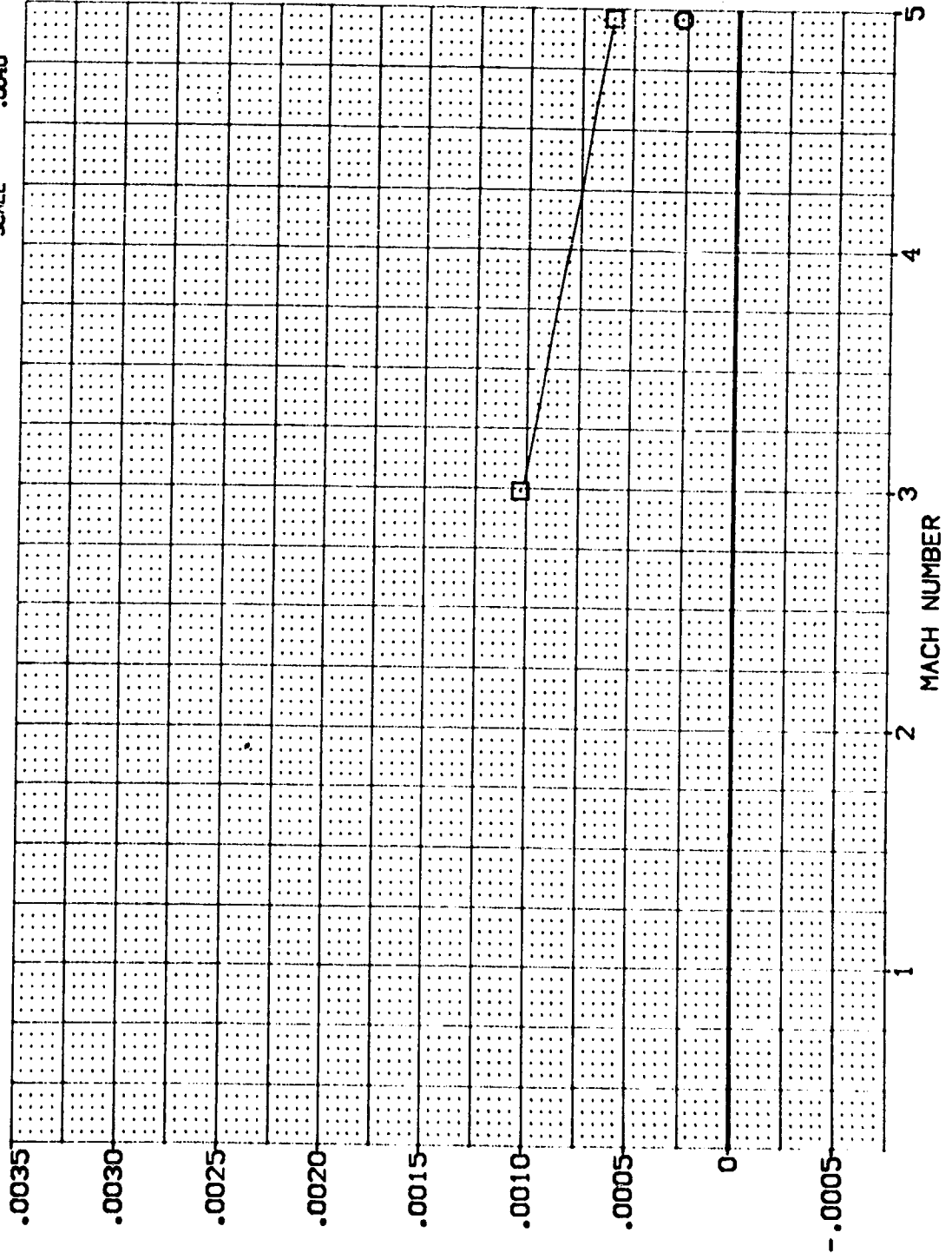
RUDDER EFFECTIVENESS BETA SWEEP DATA

(DJALPHA = 35.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {552124} 0 M5TC 581(0A49) 0RB 34-0 (BOTH)(VE)(VR)
 {552123} 0 M5TC 581(0A49) 0RB 34-0 (BOTH)(VE)(VR)

SPDRK DELRUD BDFLAP
 25.000 .000 -11.700
 85.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR

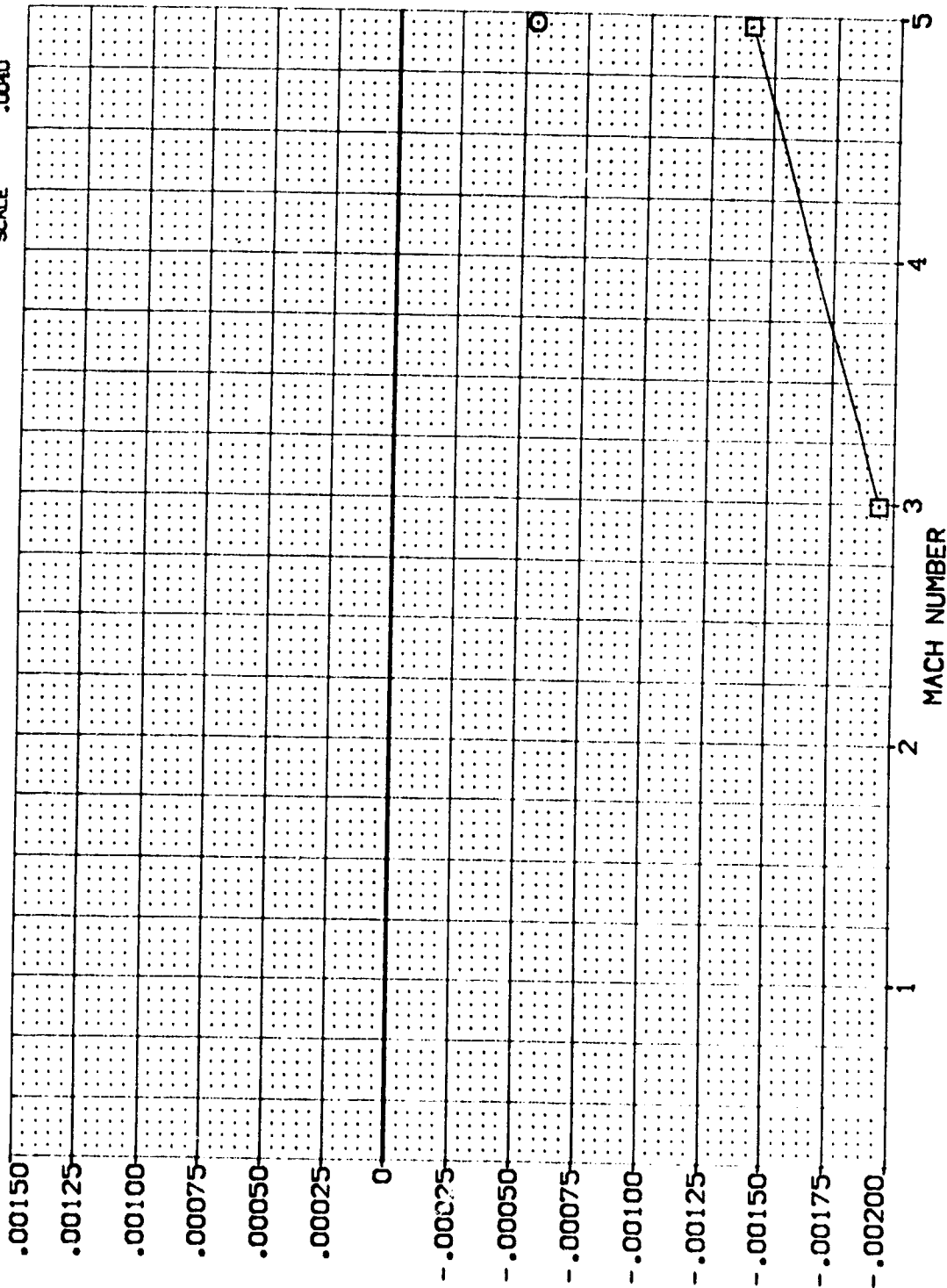
RUDDER EFFECTIVENESS BETA SWEEP DATA

(CEJALPHA = 40.00

DATA SET SYMBOL ☐ CONFIGURATION DESCRIPTION
 {992124} MSFC 581(0A49) ORB 34-0 (BCFM)(VE)(VR)
 {992123} MSFC 581(0A49) ORB 34-0 (BCFM)(VE)(VR)

SPOORX DELRUD BDFLAP
 25.000 .000 -11.700
 65.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



ROLLING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCBLDR

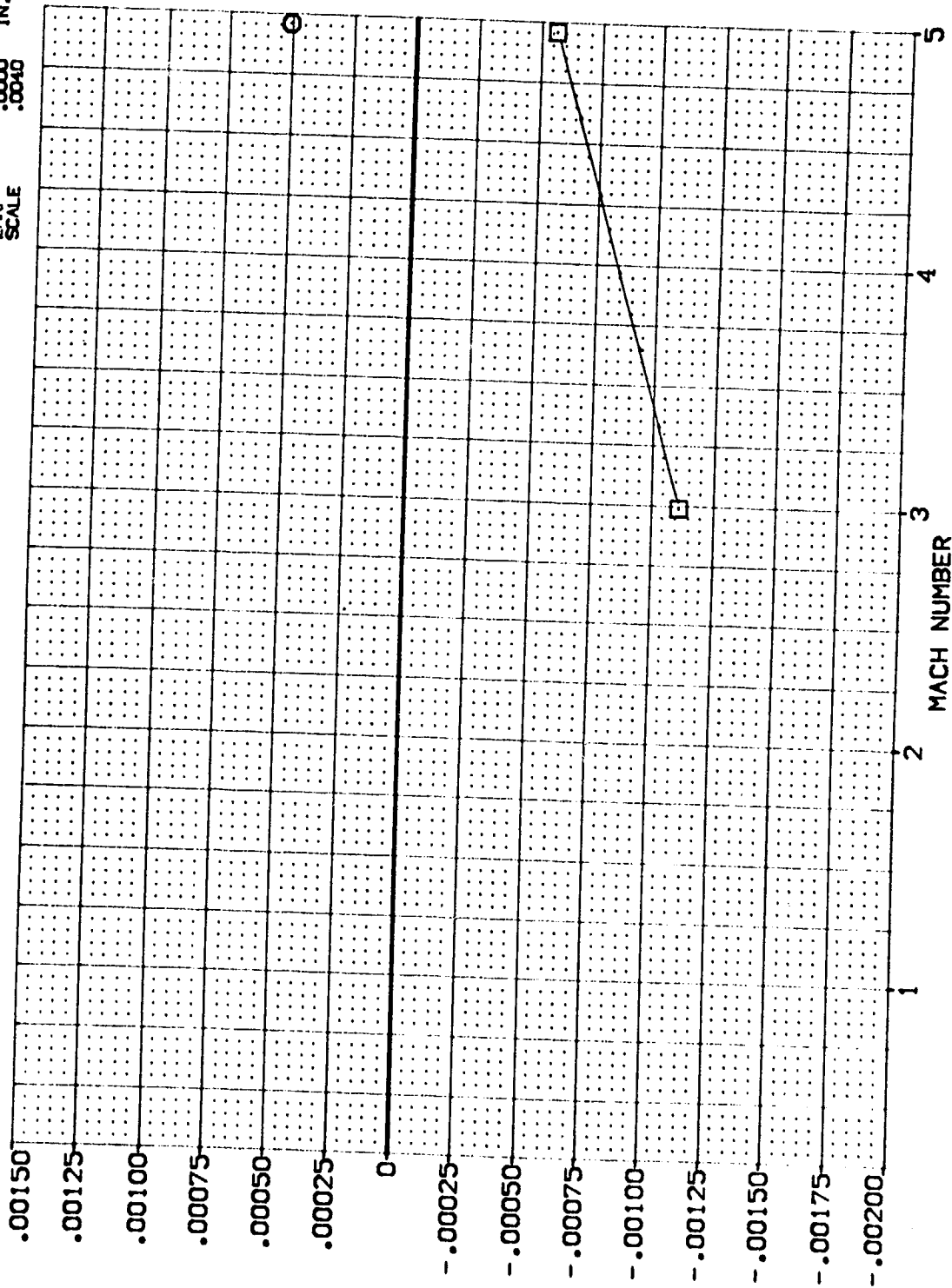
RUDDER EFFECTIVENESS BETA SWEEP DATA

(A) ALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (932124) ☐ MSC 501(0A49) DRB 34-0 (BCFM)(VE)(VR)
 (932123) ☐ MSC 501(0A49) DRB 34-0 (BCFM)(VE)(VR)

SPOBRK DELRUD BOFLAP
 25.000 .000 -11.700
 65.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.6000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3800 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



ROLLING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCBLDR

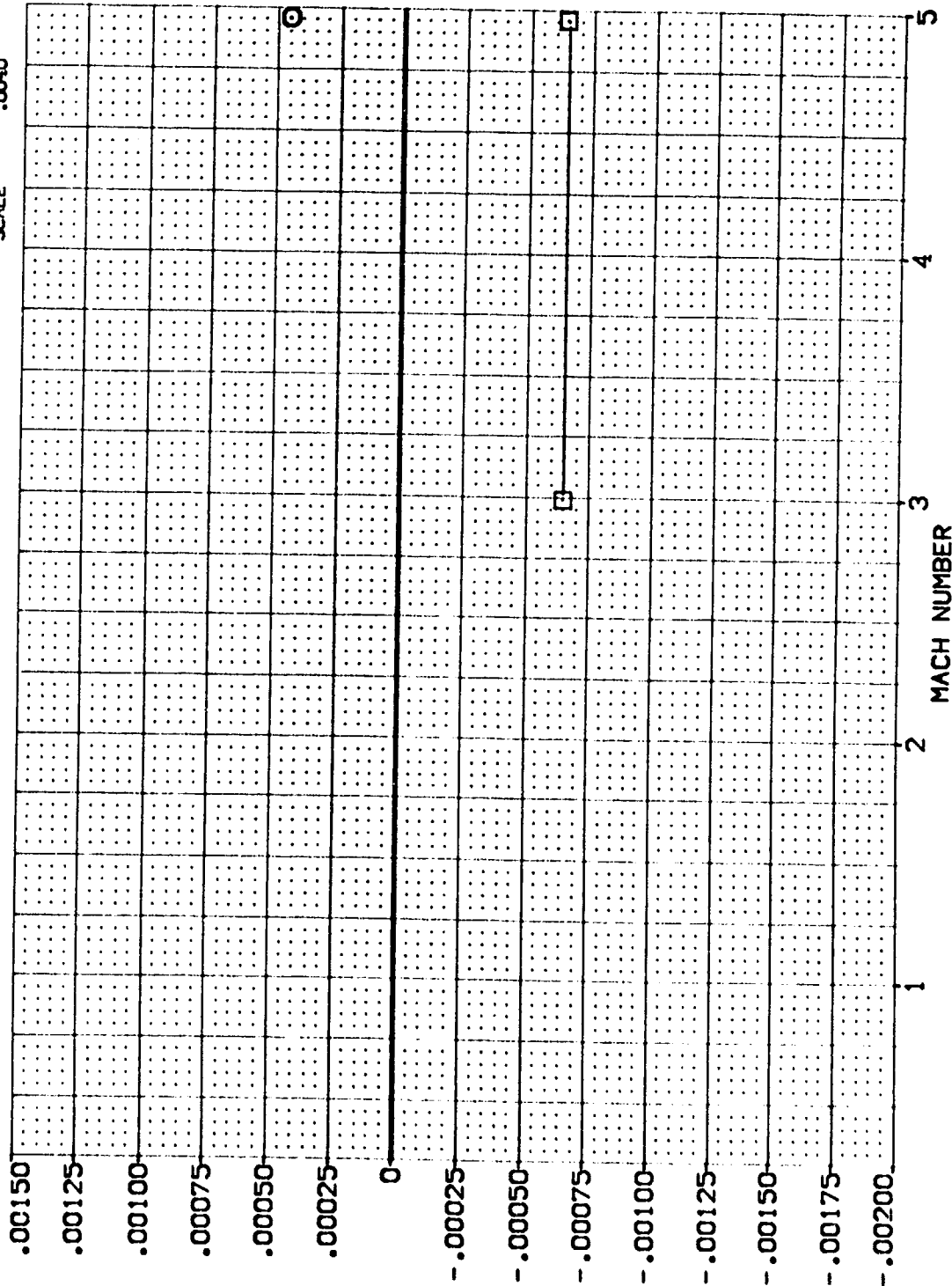
RUDDER EFFECTIVENESS BETA SWEEP DATA

(B) ALPHA = 25.00

DATA SET SYMBOL: { 992124 }
 CONFIGURATION DESCRIPTION: HSC 581(0A19) 088 34-0 (BCPH)(VE)(VR)
 HSC 581(0A19) 088 34-0 (BCPH)(VE)(VR)

SPDRBK DELRUD BDFLAP
 25.000 .000 -11.700
 85.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XMRP 1081.3800 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



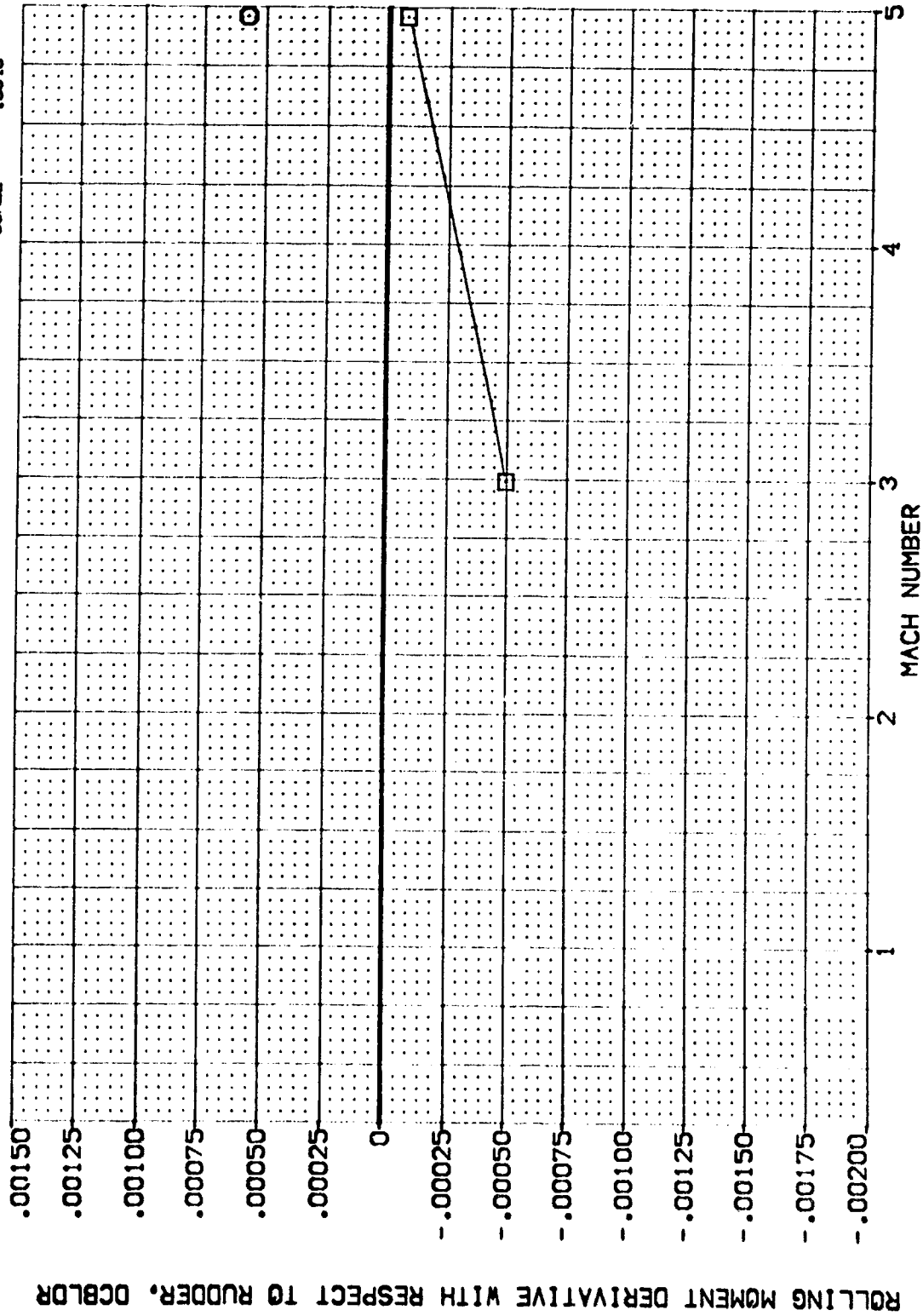
RUDDER EFFECTIVENESS BETA SWEEP DATA

[CJALPHA = 30.00

DATA SET SYMBOL: ☐ (922124) ☐ (922123) CONFIGURATION DESCRIPTION: MSFC 581(0A49) 0RB 34-0 (BOFH)(VE)(VR) MSFC 581(0A49) 0RB 34-0 (BOFH)(VE)(VR)

SPODBK DELRUD BOFLAP
25.000 .000 -11.700
85.000

REFERENCE INFORMATION
SREF 2741.8000 SQ: FT
LREF 481.6480 IN:
BREF 936.7000 IN:
XPRP 1081.3500 IN:
YPRP .0000 IN:
ZPRP .0000 IN:
SCALE .0040



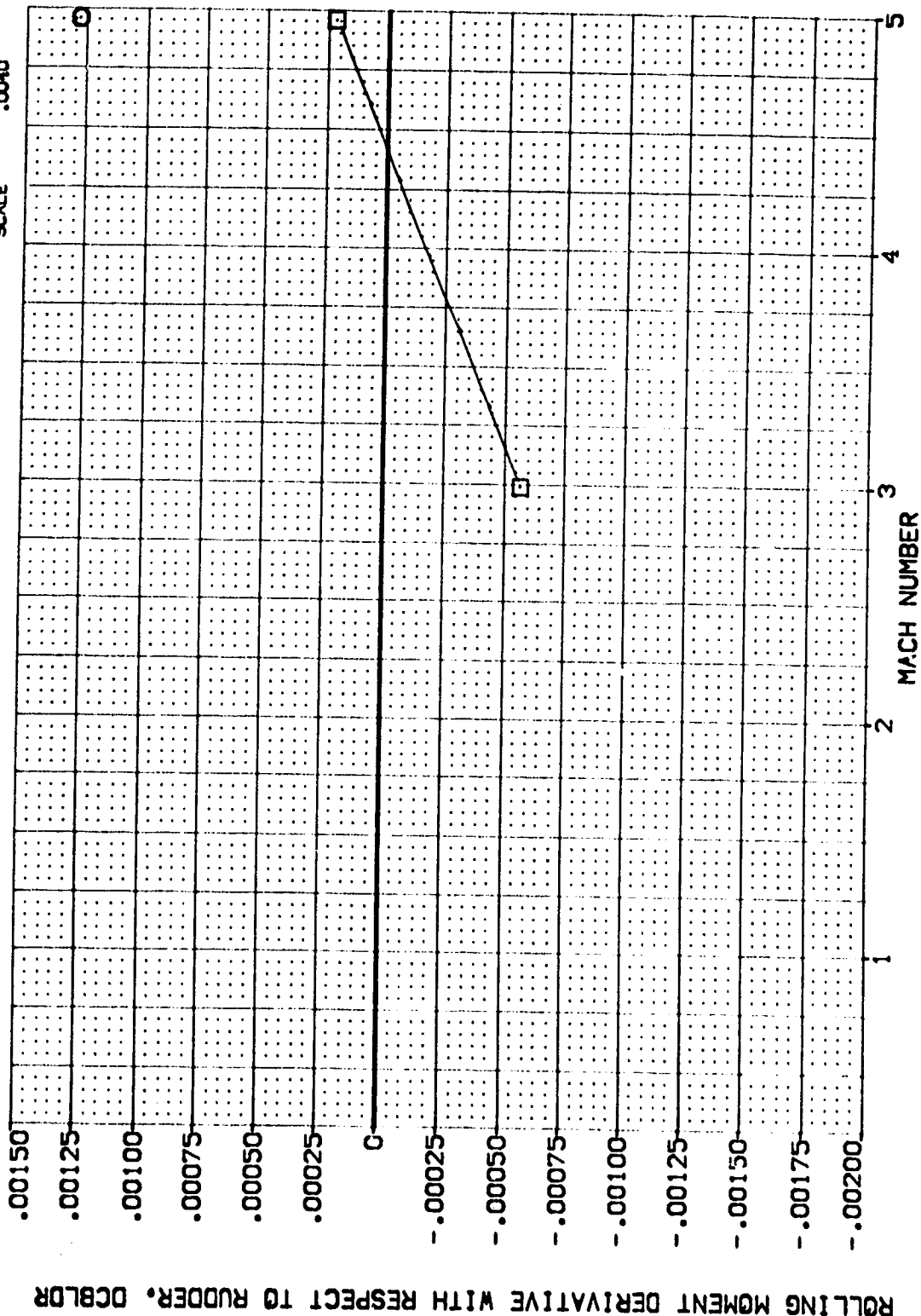
RUDDER EFFECTIVENESS BETA SWEEP DATA

(DJALPHA = 35.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [992]24] [992]23] MSFC 531[0A49] 078 34-0 [BCFM][VE][VR]
 MSFC 531[0A49] 078 34-0 [BCFM][VE][VR]

SPOBRK DELRUD BDFLAP
 25.000 .000 -11.700
 65.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

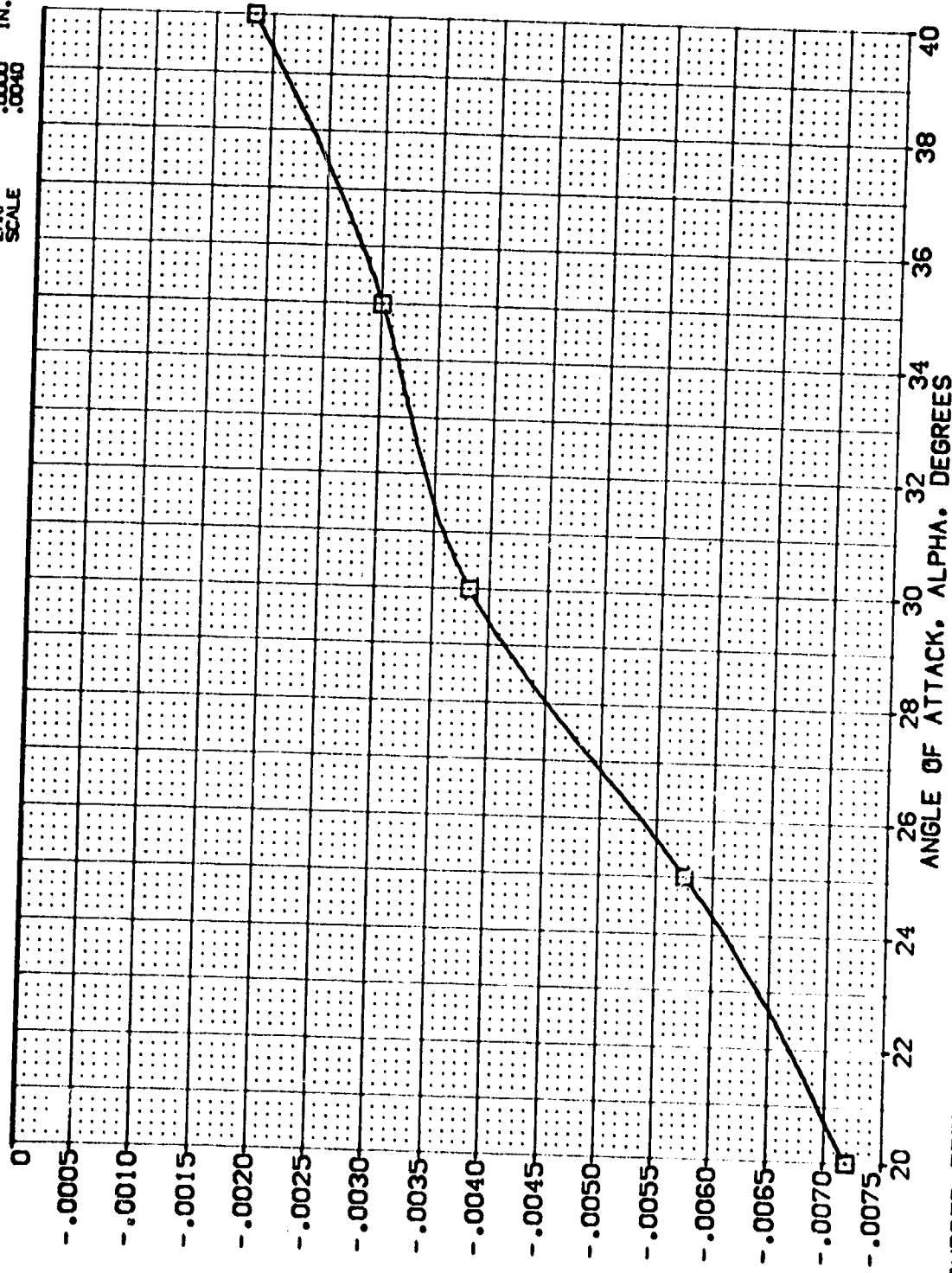
(E)ALPHA = 40.00

DATA SET SYMBOL: 002124
 CONFIGURATION DESCRIPTION: DATA NOT AVAILABLE
 MSFC 581(0A49) 000 34-0 (BOFH)(VE)(VR)

SPOBRK DELRLO BOFLAP
 25.000 .000 -11.700
 85.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 92. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XTRP 1081.3500 IN.
 YTRP .0000 IN.
 ZTRP .0000 IN.
 SCALE .0040

SIDE FORCE DERIVATIVE WITH RESPECT TO RUDDER, DCY/DR



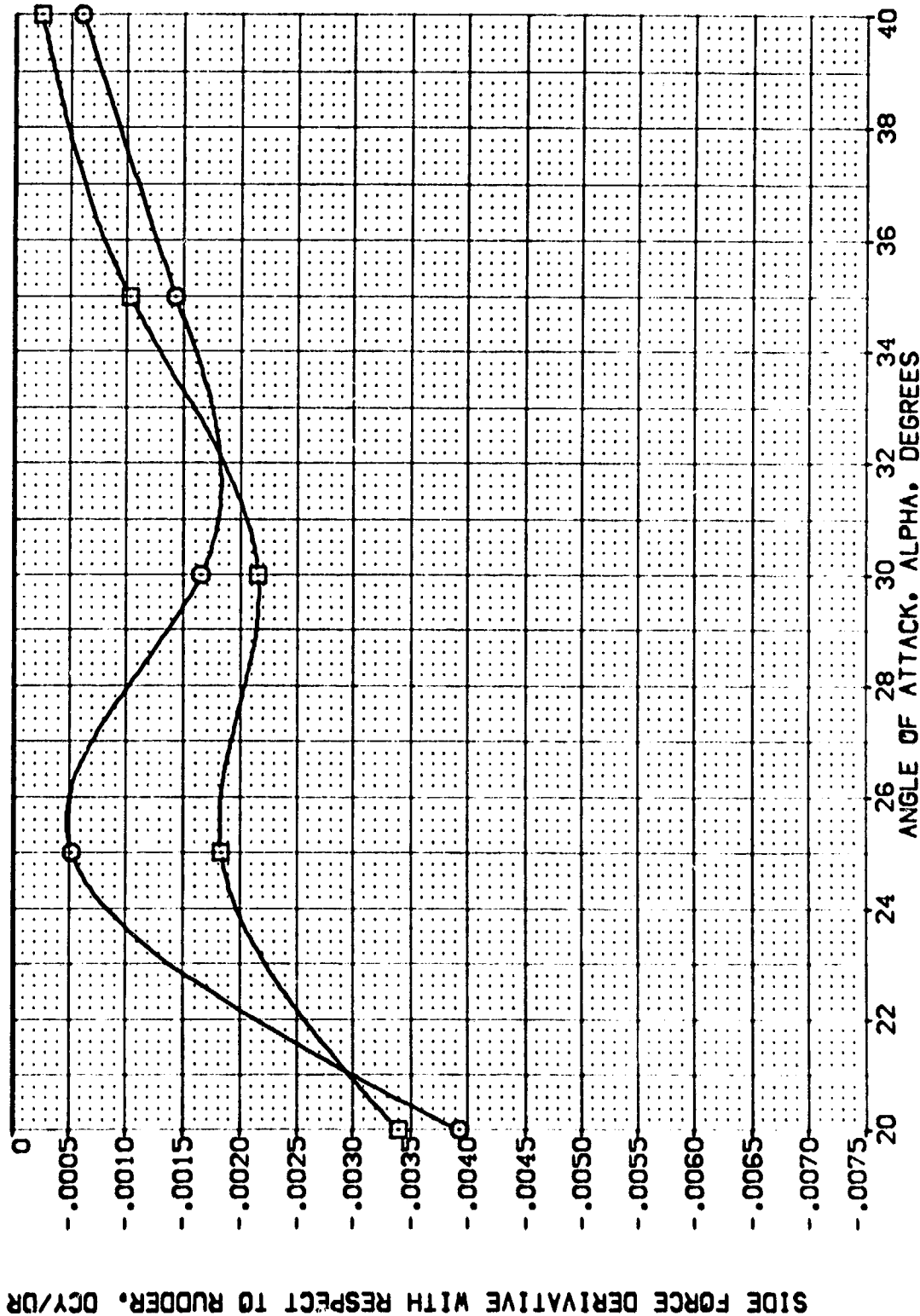
RUDDER EFFECTIVENESS BETA SWEEP DATA

(A)MACH = 2.99

DATA SET SYMBL. CONFIGURATION DESCRIPTION
 [552124] MSFC 581(5A49) 078 34-0 (BOTH)(VE)(VR)
 [552123] MSFC 581(5A49) 078 34-0 (BOTH)(VE)(VR)

SPOBRK DELRUD BDFLAP
 25.000 .000 -11.700
 65.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



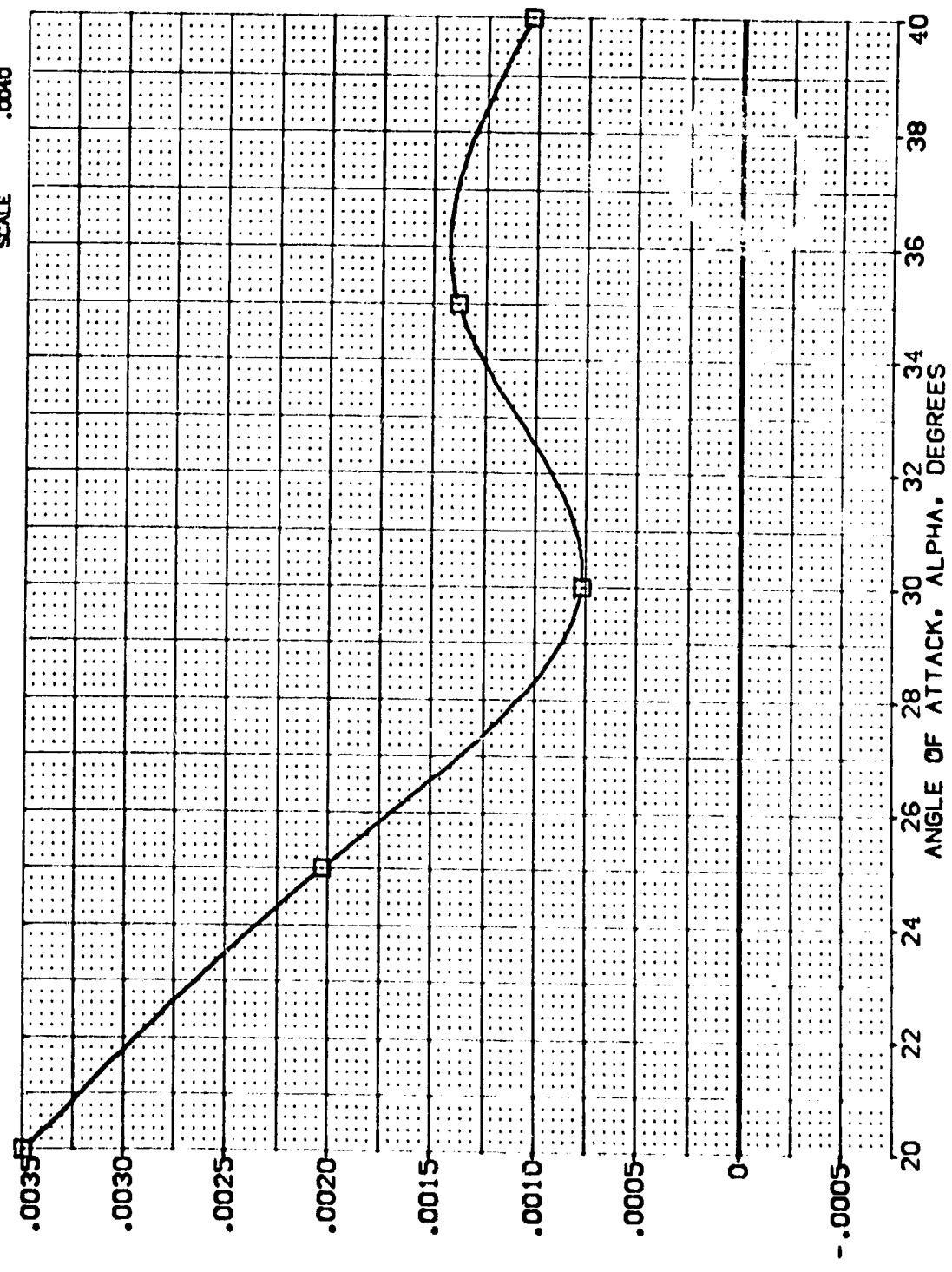
RUDDER EFFECTIVENESS BETA SWEEP DATA

(B)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (982124) □ DATA NOT AVAILABLE
 (982123) H57C 581(0415) 058 34-0 (80PM)(NE)(VR)

SPEED DELTA BOFLAP
 25.000 .000 -11.700
 65.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 556.7000 IN.
 YMRP 1081.3500 IN.
 ZMRP .0000 IN.
 SCALE .0040



YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR

RUDDER EFFECTIVENESS BETA SWEEP DATA

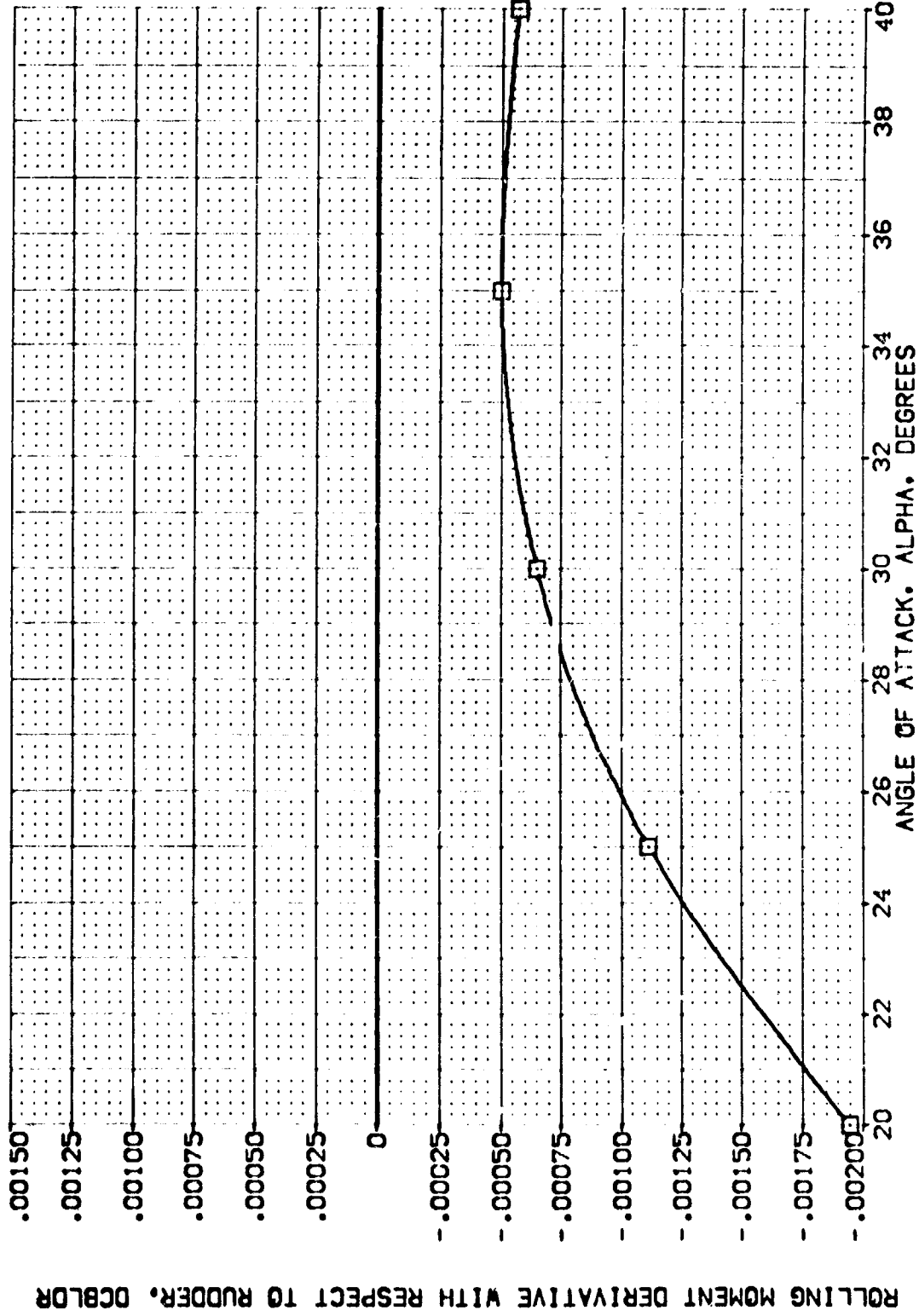
(A)MACH = 2.99

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
{502124}	MSFC 501(DA19) 00B 3A-0 (BOTH)(VE)(VR)
{502123}	MSFC 501(DA19) 00B 3A-0 (BOTH)(VE)(VR)

DATA SET SYMBOL. CONFIGURATION DESCRIPTION
 (552124) DATA NOT AVAILABLE
 (552125) PGTC 501 (CA45) DBB 34-0 (BOTH)(VE)(VR)

SPOBK DELRUD BDFLAP
 25.000 .000 -11.700
 65.000 .000 -11.700

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 YMRP 1081.3500 IN.
 ZMRP .0000 IN.
 SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

(A)MACH = 2.99

DATA SET SYMBOL CONFIGURATION DESCRIPTION SPDRBK DELRUD BDFLAP

{ 992124 } □ MSFC 581(CA49) 078 34-0 (BCFM)(VE)(VR) 25.000 .000 -11.700

{ 992123 } MSFC 581(CA49) 078 34-0 (BCFM)(VE)(VR) 65.000 .000 -11.700

REFERENCE INFORMATION

SREF 2741.8000 SQ. FT

LREF 481.6/80 IN.

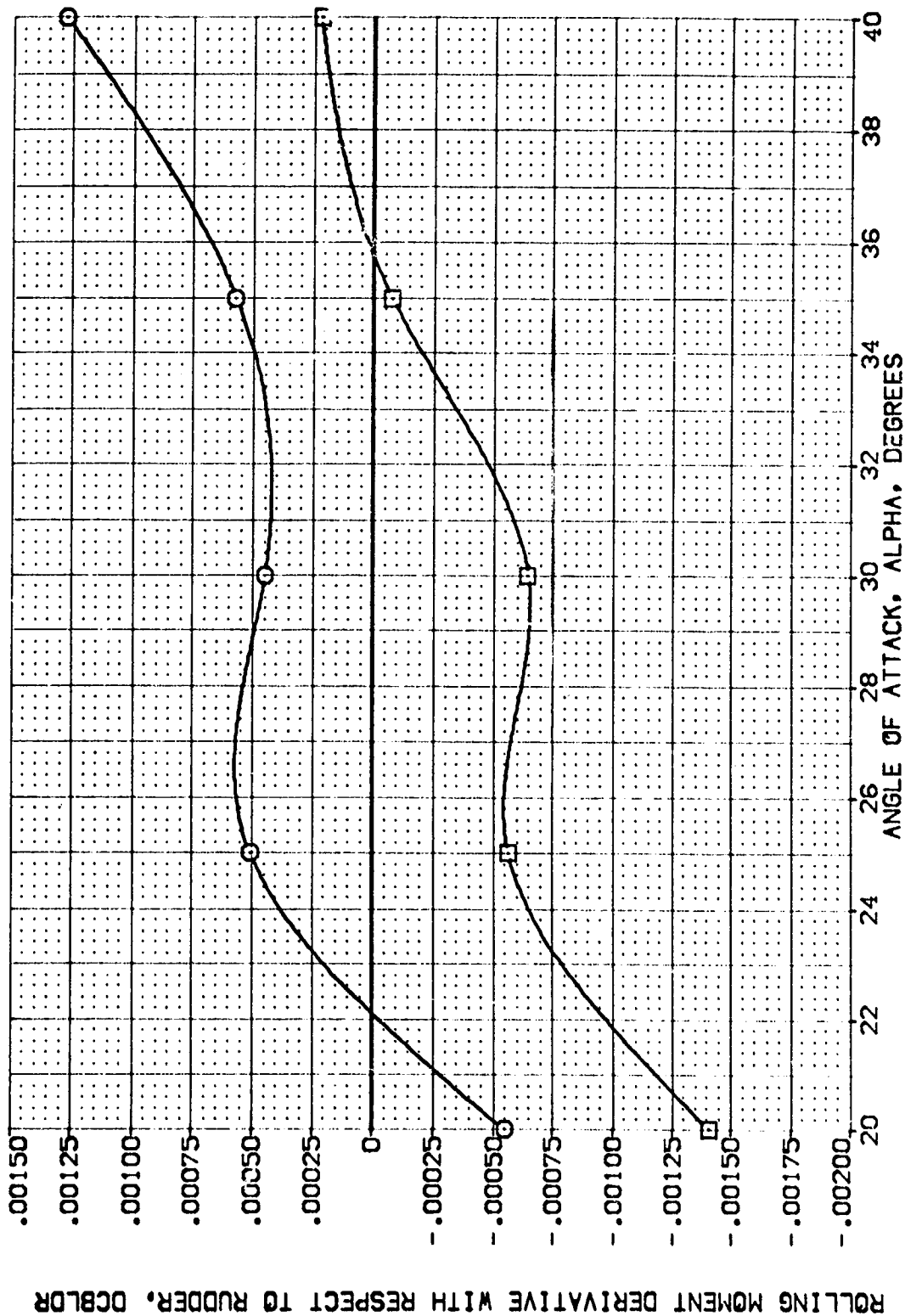
BREF 936.7000 IN.

XMRP 1081.3500 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

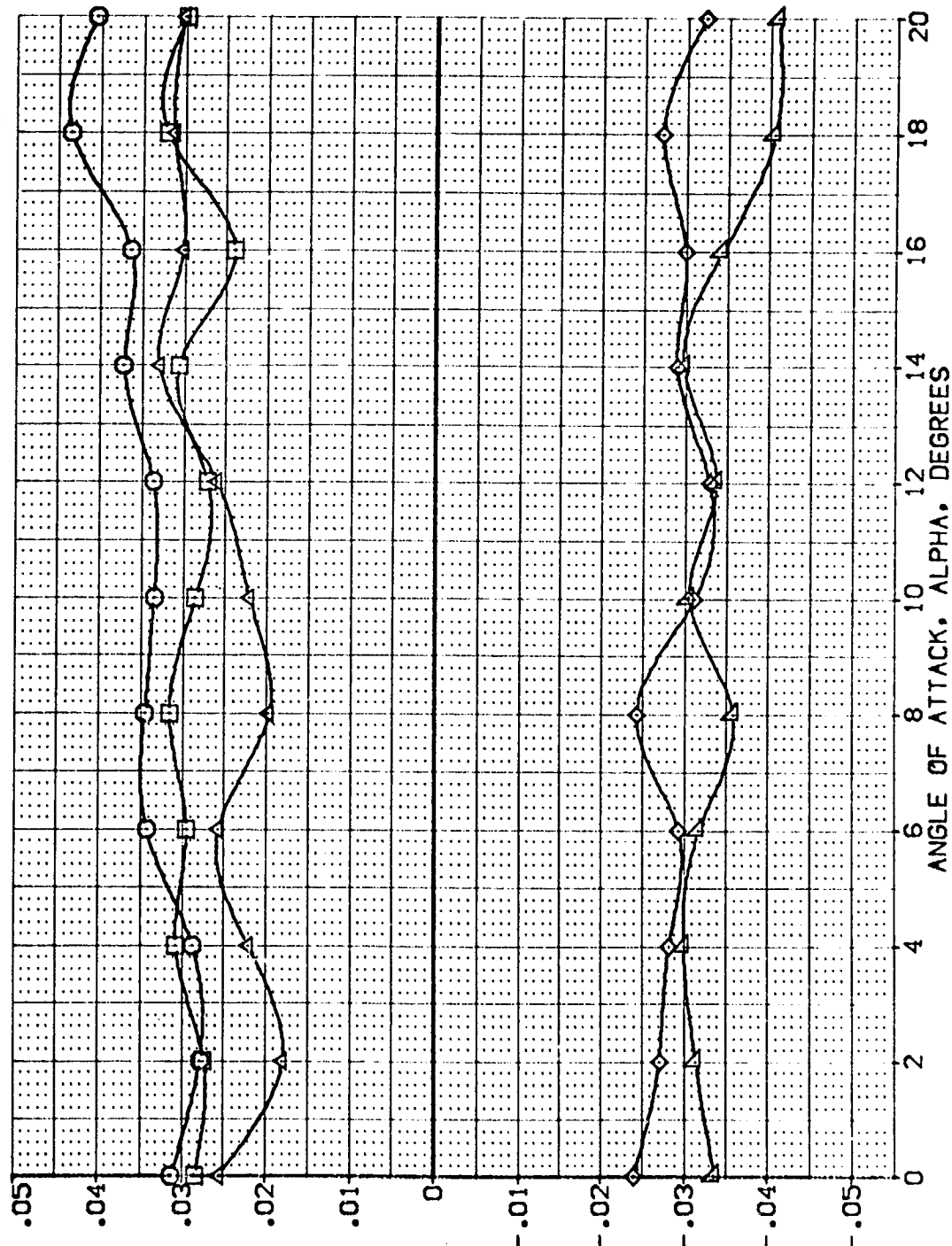
SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

(B)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SPDBRK	RUDDER	BOFLAP	ELEVTR	REFERENCE INFORMATION
(H82046)	MSC 501(0A49) 078 3A-0 (BOFM)(VE)(VR)	.000	.000	-11.700	4.160	SREF 2741.8000 SQ. FT
(H82047)	MSC 501(0A49) 078 3A-0 (BOFM)(VE)(VR)	25.000	.000	-11.700	4.160	LREF 481.6480 IN.
(H82048)	MSC 501(0A49) 078 3A-0 (BOFM)(VE)(VR)	25.000	.000	-11.700	4.160	BREF 936.7000 IN.
(H82111)	MSC 501(0A49) 078 3A-0 (BOFM)(VE)(VR)	25.000	.000	16.300	4.160	XMRP 1081.3900 IN.
(H82112)	MSC 501(0A49) 078 3A-0 (BOFM)(VE)(VR)	65.000	.000	16.300	4.160	YMRP .0000 IN.
						ZMRP .0040 IN.
						SCALE

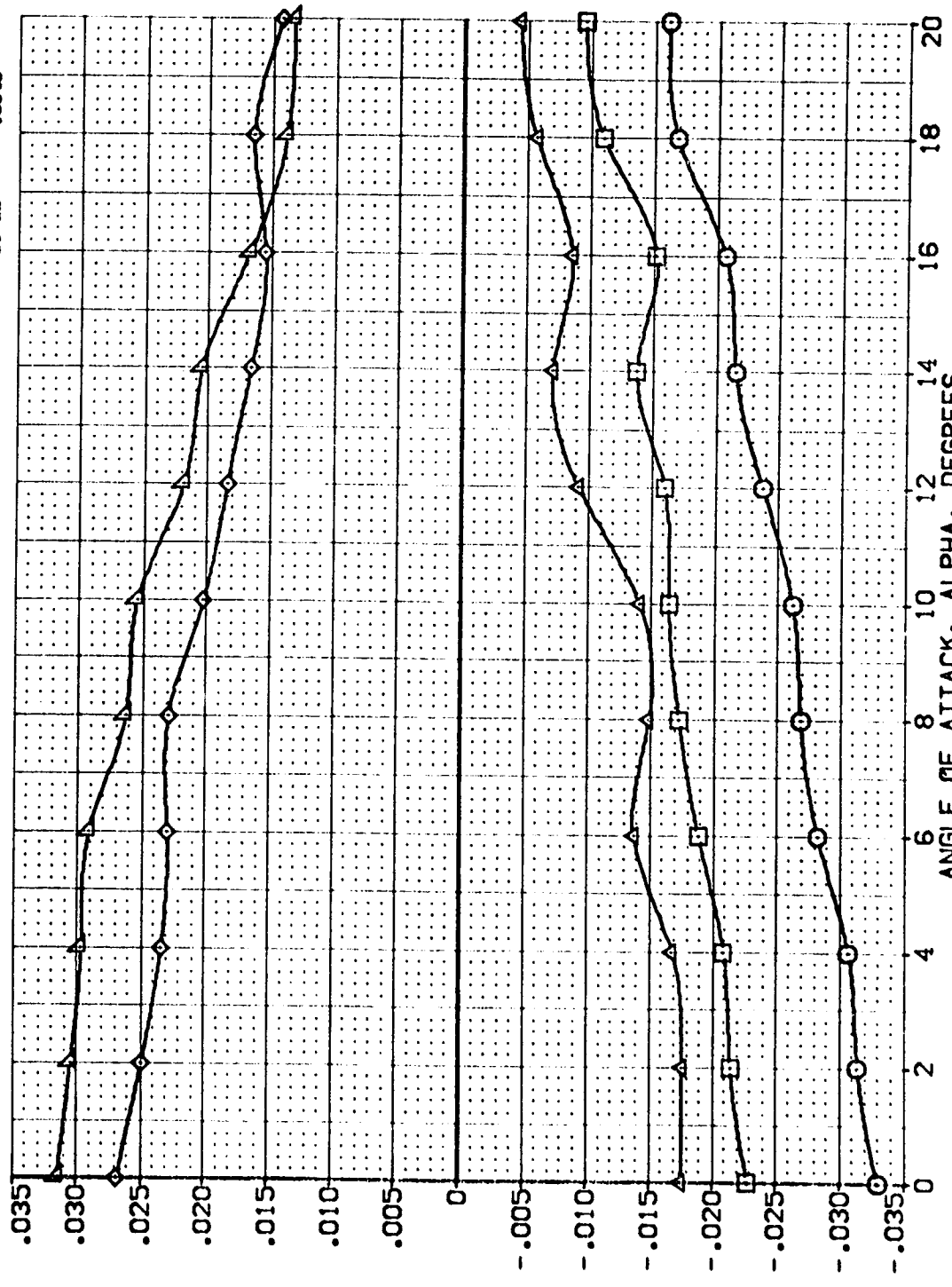


INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(MACH = .60

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SPDBRK	RUDDER	BDFLAP	ELEVTR	REFERENCE INFORMATION
(H2045)	H2C 581 (DA49) DB 34-0 (BDM) (VE) (VR)	.000	.000	-11.700	4.160	SREF 2741.8000 SQ. FT
(H2047)	H2C 581 (DA49) DB 34-0 (BDM) (VE) (VR)	.000	.000	-11.700	4.160	LREF 481.6480 IN.
(H2048)	H2C 581 (DA49) DB 34-0 (BDM) (VE) (VR)	.000	.000	-11.700	4.160	BREF 936.7000 IN.
(H2111)	H2C 581 (DA49) DB 34-0 (BDM) (VE) (VR)	.000	.000	16.300	4.160	XPRP 1081.3900 IN.
(H2112)	H2C 581 (DA49) DB 34-0 (BDM) (VE) (VR)	.000	.000	16.300	4.160	YPRP .0000 IN.
						ZPRP .0000 IN.
						SCALE .0040



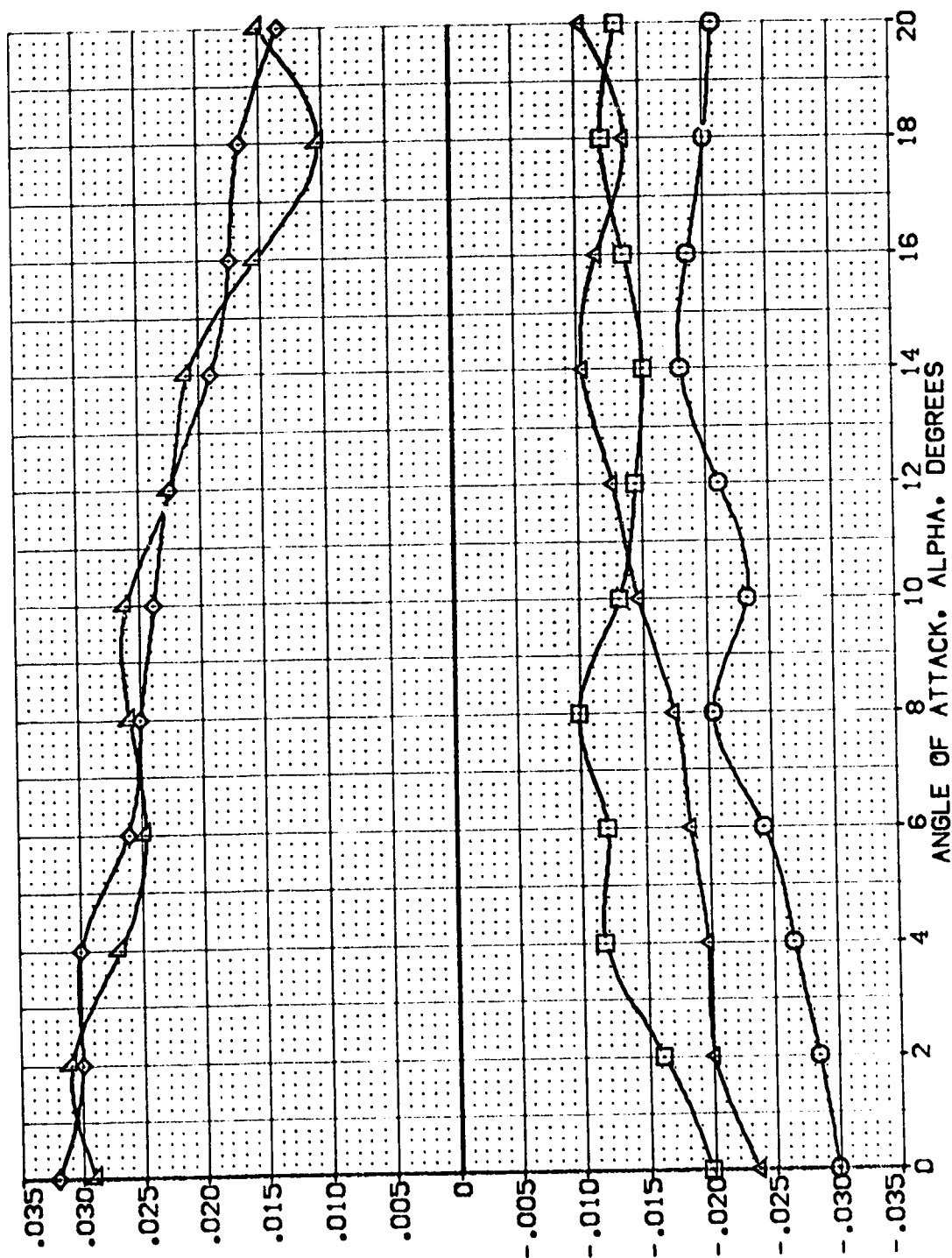
INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SPDRK	RUDDER	BD FLAP	ELEVTR	SREF	LREF	BREF	XPRP	YPRP	ZPRP	SCALE
MS2C 581 (DA49)	CRB 34-0 (BCFM) (VE) (VR)	.000	.000	-11.700	4.160	2741.8000	481.6480	936.7000	1081.3900	.0000	.0000	.0040
MS2C 581 (DA49)	CRB 34-0 (BCFM) (VE) (VR)	25.000	.000	-11.700	4.160	2741.8000	481.6480	936.7000	1081.3900	.0000	.0000	.0040
MS2C 581 (DA49)	CRB 34-0 (BCFM) (VE) (VR)	85.000	.000	-11.700	4.160	2741.8000	481.6480	936.7000	1081.3900	.0000	.0000	.0040
MS2C 581 (DA49)	CRB 34-0 (BCFM) (VE) (VR)	22.000	.000	16.300	4.160	2741.8000	481.6480	936.7000	1081.3900	.0000	.0000	.0040
MS2C 581 (DA49)	CRB 34-0 (BCFM) (VE) (VR)	85.000	.000	16.300	4.160	2741.8000	481.6480	936.7000	1081.3900	.0000	.0000	.0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDRBK)

(B)MACH = .89

DATA SET SYMBOL CONFIGURATION DESCRIPTION SPDBRK RUDDER BOFLAP ELEVTR REFERENCE INFORMATION SQ. FT

[MS2045] [MS2045] DBB 34-0 (BCFM)(VE)(VR) .000 -11.700 4.160 SREF 2741.8000 IN.

[MS2047] [MS2047] DBB 34-0 (BCFM)(VE)(VR) .000 -11.700 4.160 LREF 481.6480 IN.

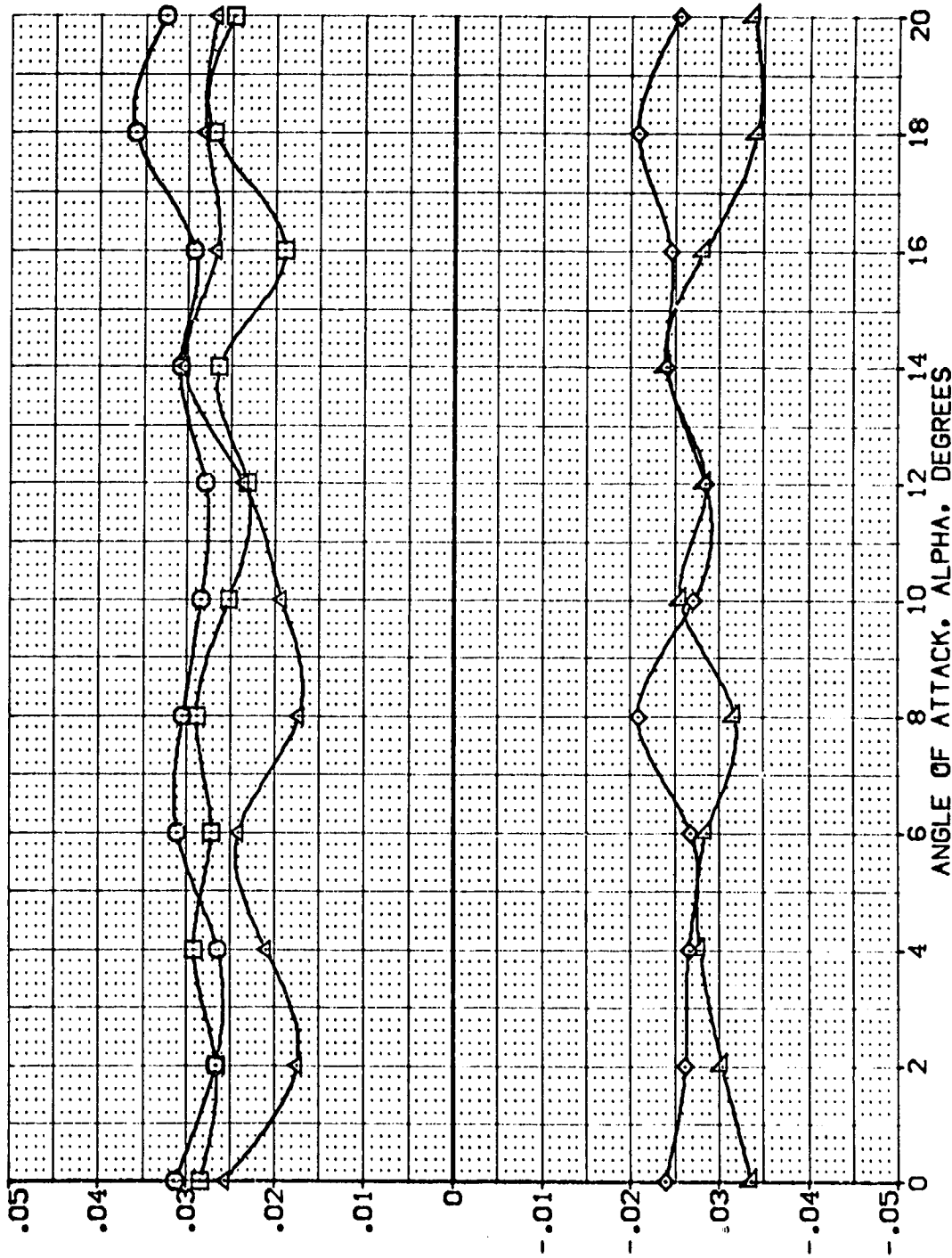
[MS2048] [MS2048] DBB 34-0 (BCFM)(VE)(VR) .000 -11.700 4.160 BREF 536.7000 IN.

[MS2111] [MS2111] DBB 34-0 (BCFM)(VE)(VR) .000 16.300 4.160 XMRP 1081.3500 IN.

[MS2112] [MS2112] DBB 34-0 (BCFM)(VE)(VR) .000 16.300 4.160 YMRP .0000 IN.

SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

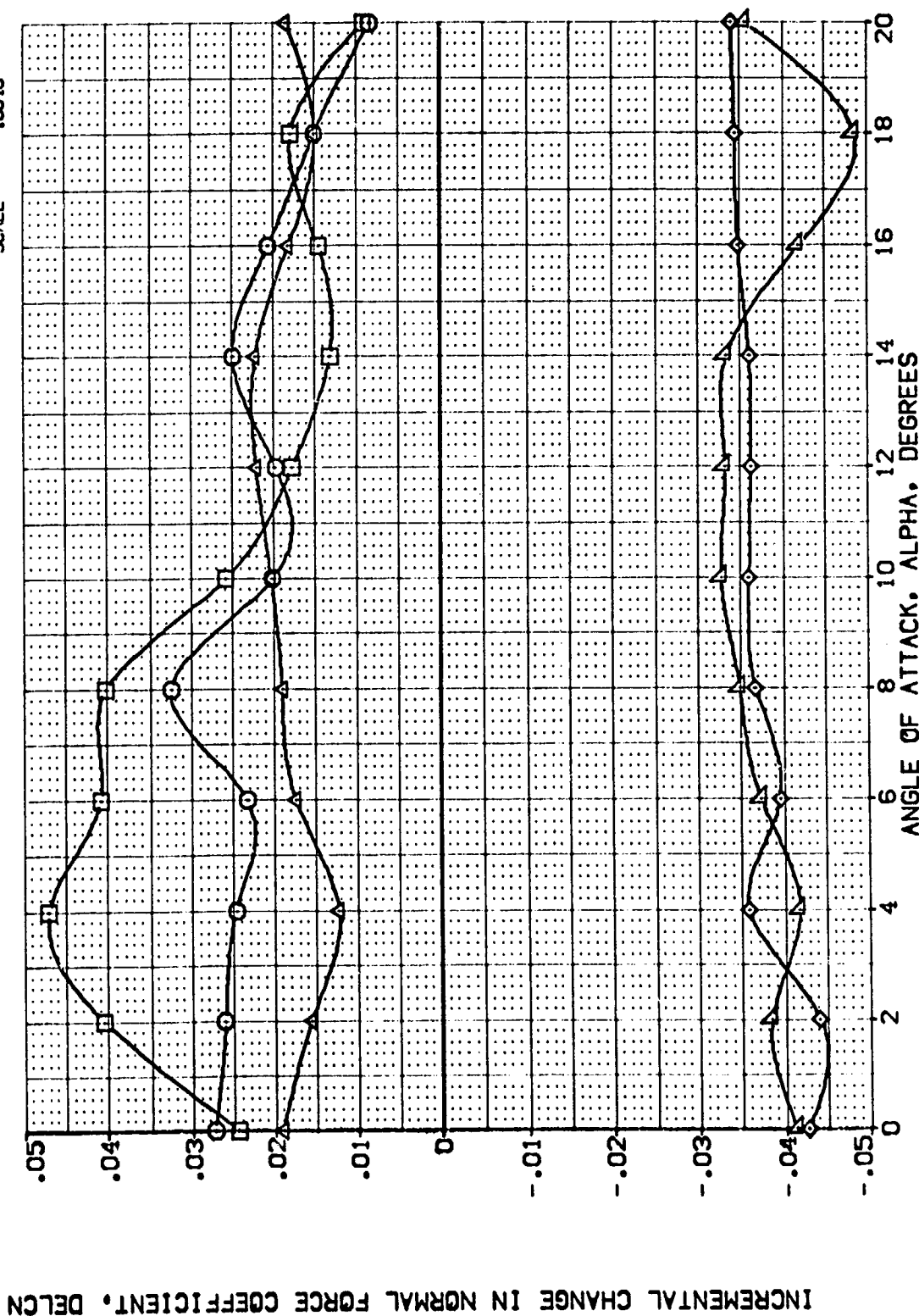


SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

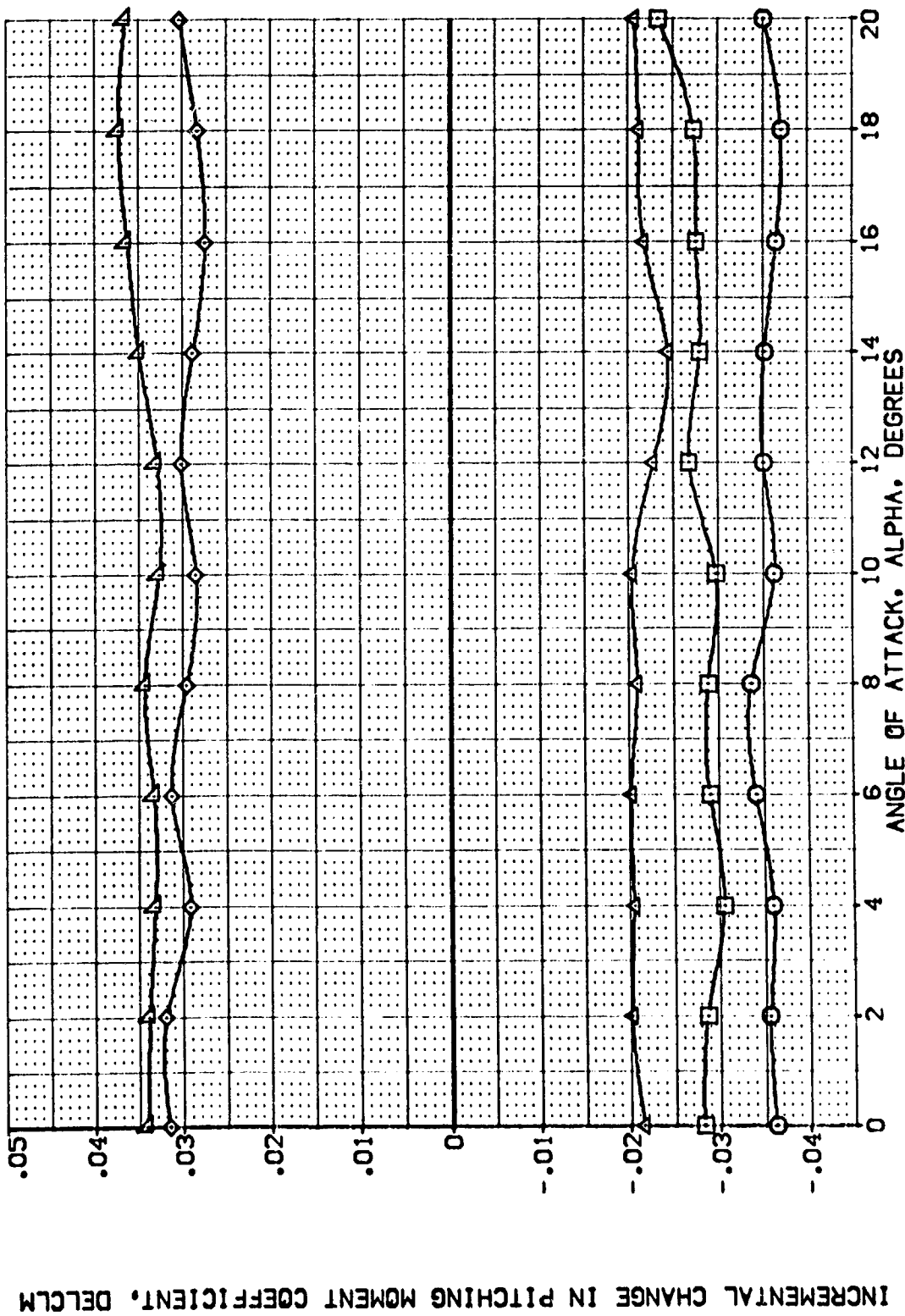
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SPDBRK	RUDDER	BOFLAP	ELEVTR	SREF	LREF	BREF	XMRP	ZMRP	SCALE
[M2045]	SEC 581(0A49) DB 3A-0 (BOFM)(VE)(VR)	.000	.000	-11.700	4.160	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040
[M2047]	SEC 581(0A49) DB 3A-0 (BOFM)(VE)(VR)	.000	.000	-11.700	4.160	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040
[M2048]	SEC 581(0A49) DB 3A-0 (BOFM)(VE)(VR)	.000	.000	-11.700	4.160	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040
[M2049]	SEC 581(0A49) DB 3A-0 (BOFM)(VE)(VR)	.000	.000	-11.700	4.160	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040
[M2111]	SEC 581(0A49) DB 3A-0 (BOFM)(VE)(VR)	.000	.000	-11.700	4.160	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040
[M2112]	SEC 581(0A49) DB 3A-0 (BOFM)(VE)(VR)	.000	.000	-11.700	4.160	2741.8000	481.6480	936.7000	1081.3500	.0000	.0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(B)MACH = .89

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SPDBRK	RUDDER	BOFLAP	ELEVTR	REFERENCE INFORMATION
(H32045)	HSTC 581(CA49) CRB 34-0 (BDTH)(VE)(VR)	.000	.000	-11.700	4.160	SREF 2741.8000 SQ. FT
(H32047)	HSTC 591(CA49) CRB 34-0 (BDTH)(VE)(VR)	25.000	.000	-11.700	4.160	LREF 481.6480 IN.
(H32048)	HSTC 581(CA49) CRB 34-0 (BDTH)(VE)(VR)	65.000	.000	-11.700	4.160	BREF 936.7000 IN.
(H32111)	HSTC 581(CA49) CRB 34-0 (BDTH)(VE)(VR)	25.000	.000	16.300	4.160	XPRP 1081.3900 IN.
(H32112)	HSTC 581(CA49) CRB 34-0 (BDTH)(VE)(VR)	65.000	.000	16.300	4.160	YPRP .0000 IN.
						ZPRP .0040 IN.
						SCALE



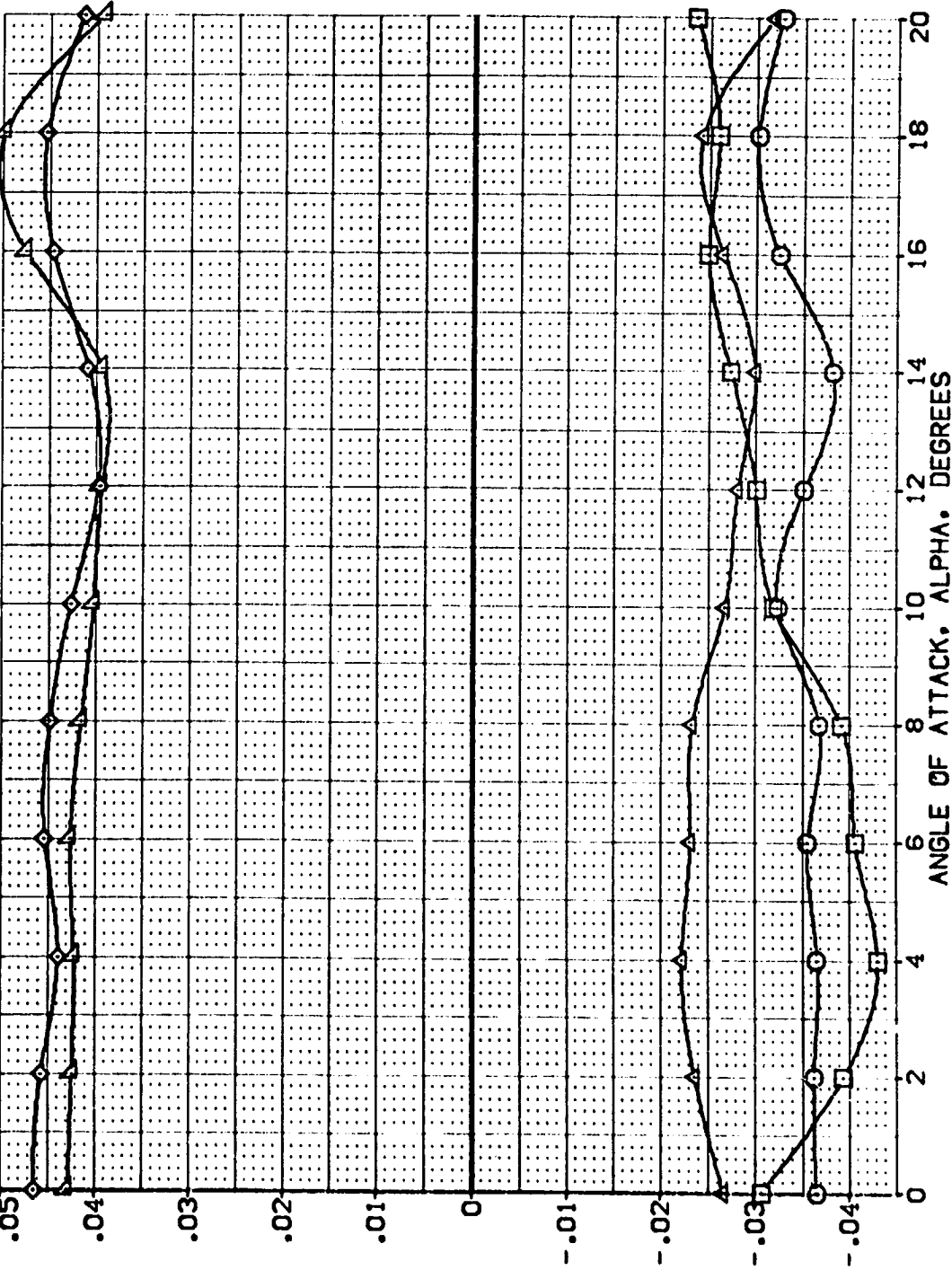
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SPDBRK	RUDDER	BDCLAP	ELEVTR	REFERENCE INFORMATION
[M2046]	MSFC 581(0A49) 078 34-0 (BOTH)(VE)(VR)	.000	.000	-11.700	4.180	SREF 2741.8000 SQ. FT
[M2047]	MSFC 581(0A49) 078 34-0 (BOTH) (VE)(VR)	25.000	.000	-11.700	4.180	LREF 481.6480 IN.
[M2048]	MSFC 581(0A49) 078 34-0 (BOTH)(VE)(VR)	62.000	.000	-11.700	4.180	BREF 936.7000 IN.
[M2111]	MSFC 581(0A49) 078 34-0 (BOTH) (VE)(VR)	23.000	.000	16.300	4.180	YMRP 1081.3500 IN.
[M2112]	MSFC 581(0A49) 078 34-0 (BOTH)(VE)(VR)	65.000	.000	16.300	4.180	ZMRP .0000 IN.

SCALE .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

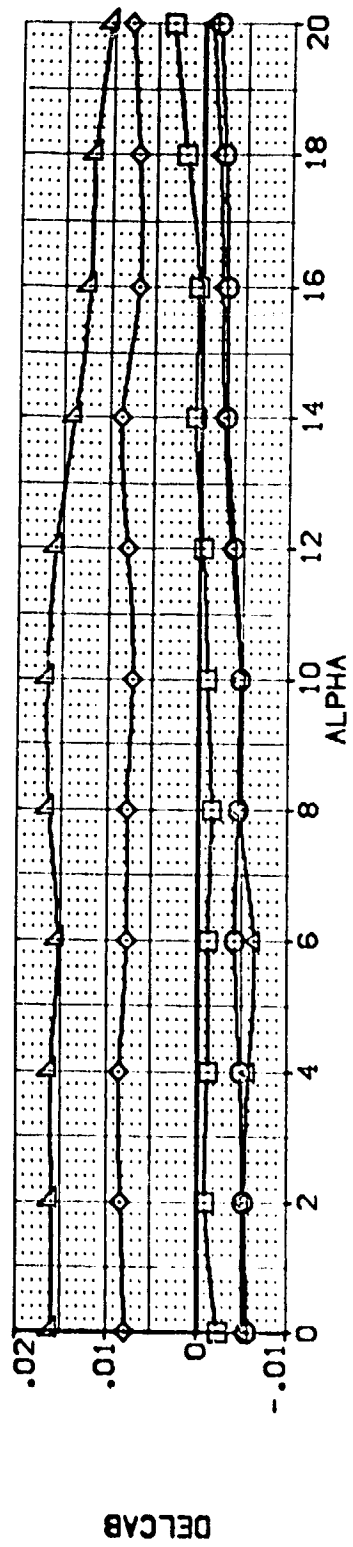
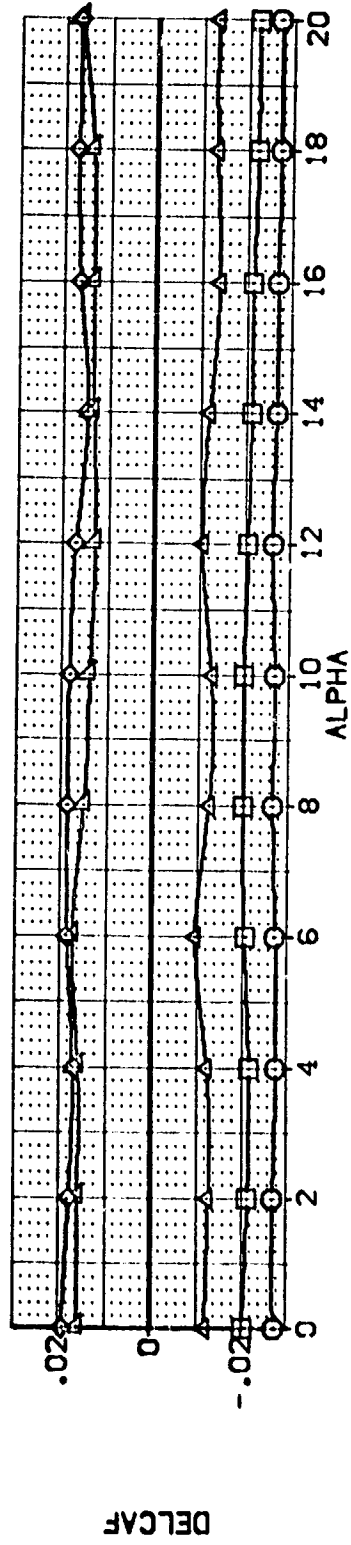
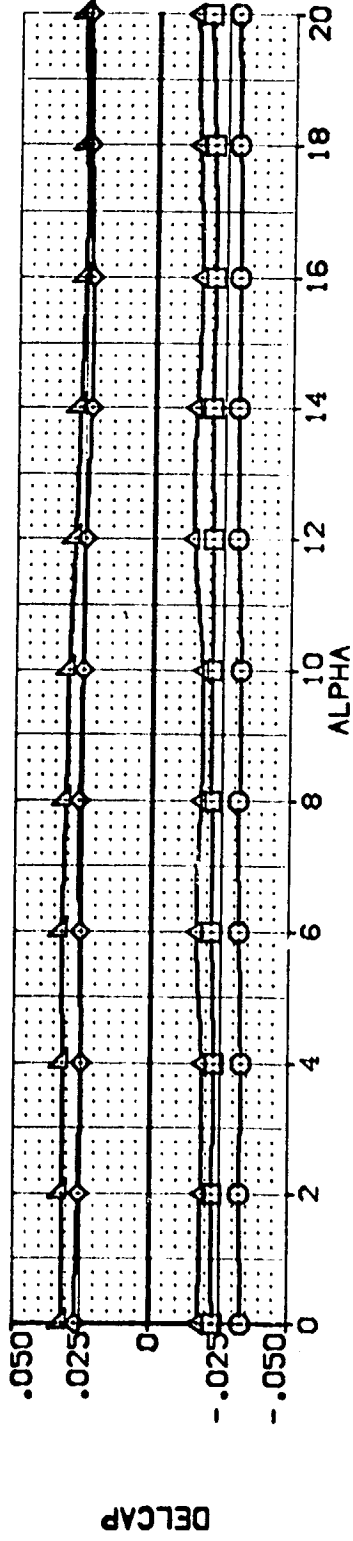
(B)MACH = .89

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(H2046)	MSFC	S81(CA49)	DB 34-0	(BDFH)(VE)(VR)
(H2047)	MSFC	S31(CA49)	DB 34-0	(VE)(VR)
(H2048)	MSFC	S81(CA49)	DB 34-0	(BDFH)(VE)(VR)
(H2111)	MSFC	S81(CA49)	DB 34-0	(BDFH)(VE)(VR)
(H2112)	MSFC	S81(CA49)	DB 34-0	(BDFH)(VE)(VR)

SPDBRK RUDDER BDFLAP ELEVTR REFERENCE INFORMATION

.000	.000	-11.700	4.160	SREF	2741.8000	SQ. FT
25.000	.000	-11.700	4.160	LREF	481.6480	IN.
65.000	.000	-11.700	4.160	BREF	536.7000	IN.
85.000	.000	16.300	4.160	YPRP	1081.3500	IN.
				ZPRP	.0000	IN.
				SCALE	.0040	



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[H2045] HSC 581(0A49) 078 34-0 (BDFM)(VE)(VR)
 [H2047] HSC 521(0A49) 078 34-0 (BDFM)(VE)(VR)
 [H2048] HSC 521(0A49) 078 34-0 (BDFM)(VE)(VR)
 [H2049] HSC 581(0A49) 078 34-0 (BDFM)(VE)(VR)
 [H2111] HSC 581(0A49) 078 34-0 (BDFM)(VE)(VR)
 [H2112] HSC 581(0A49) 078 34-0 (BDFM)(VE)(VR)

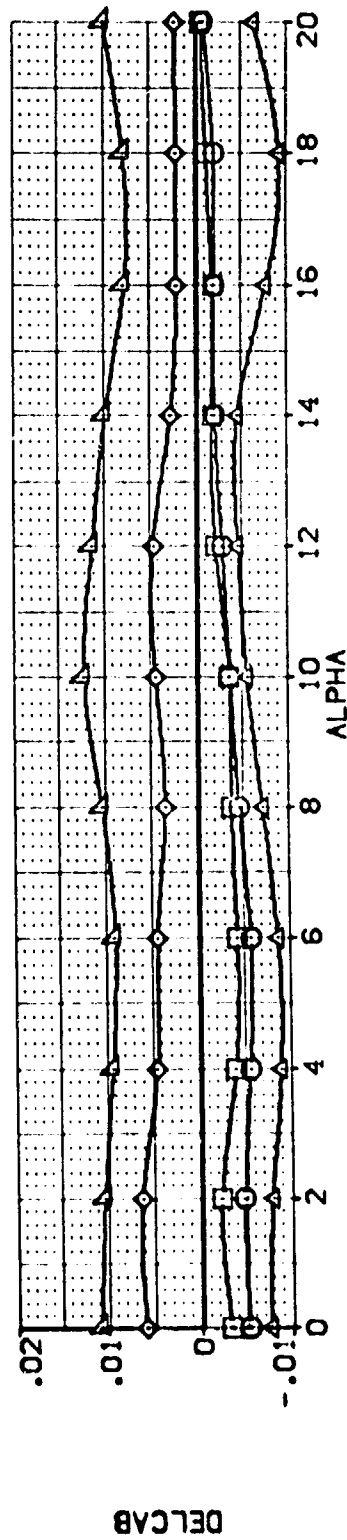
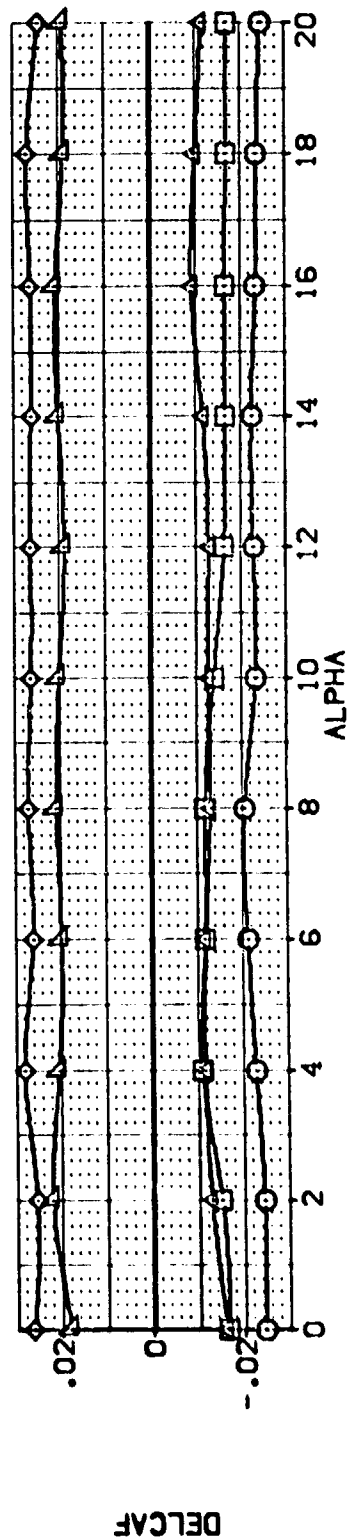
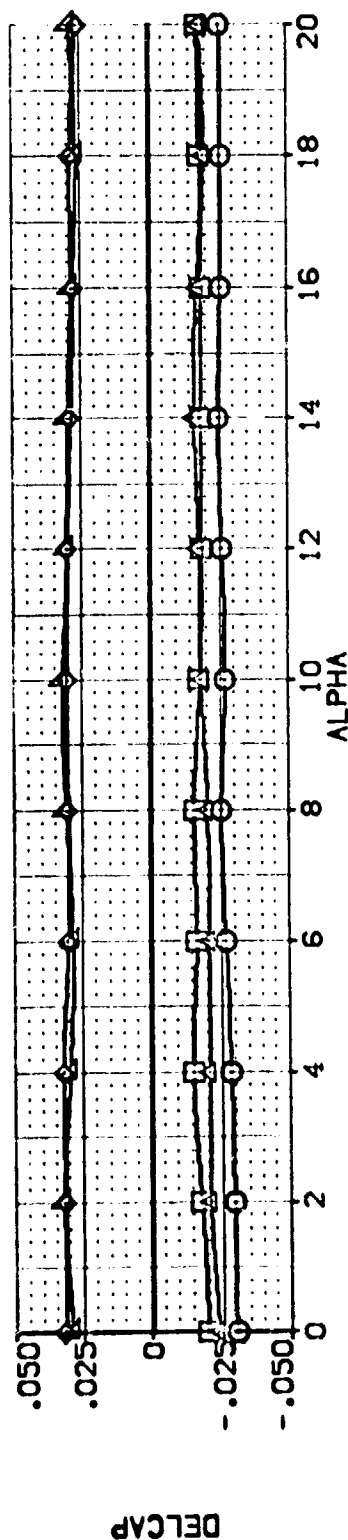
SPOBRK .000
 .25.000
 65.000
 25.000
 65.000

RUDDER .000
 .000
 .000
 .000
 .000

BOFLAP -11.700
 -11.700
 -11.700
 16.300
 16.300

ELEVTR 4.160
 4.160
 4.160
 4.160
 4.160

REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



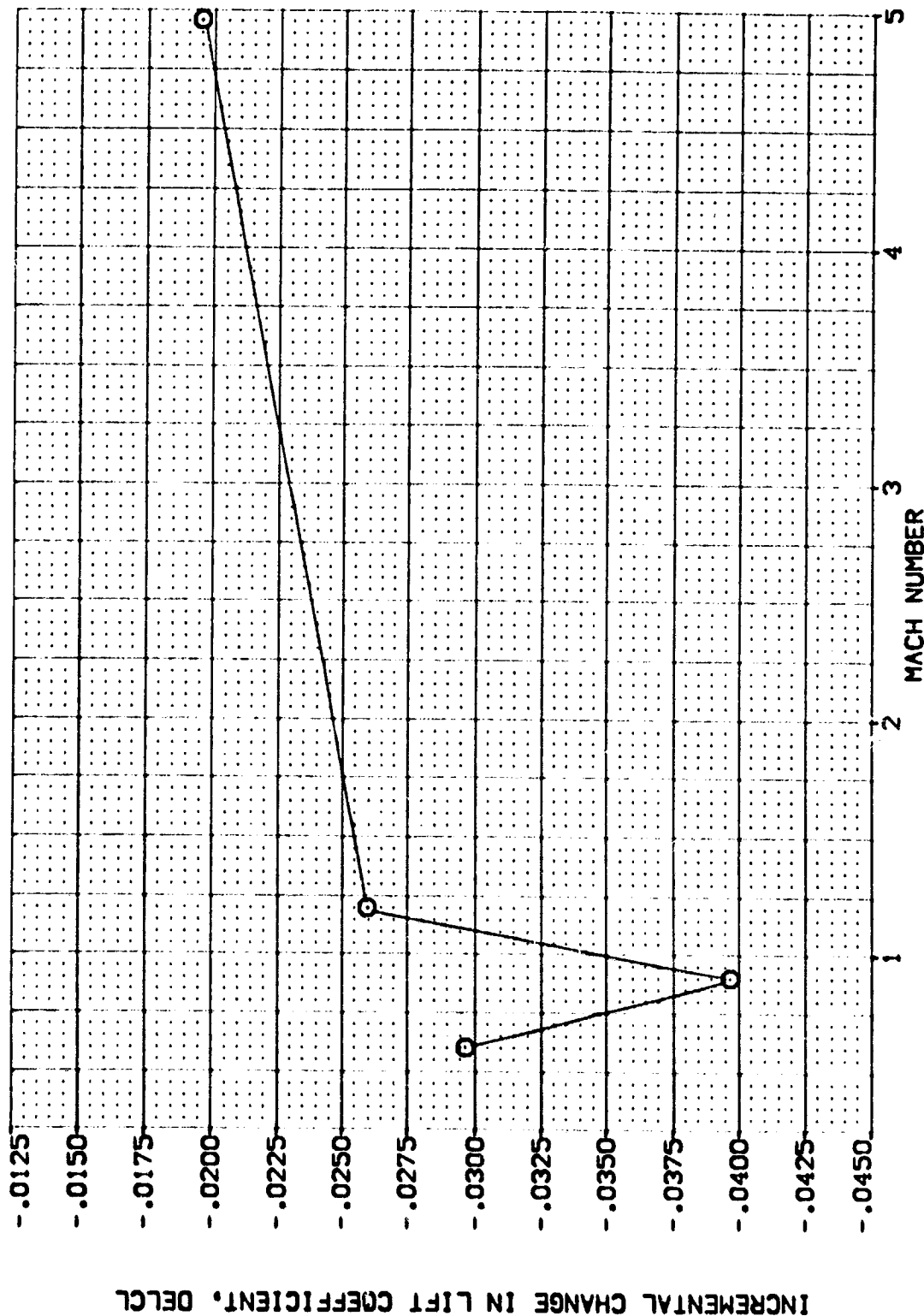
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPOBRK)

(B)MACH = .89

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(952249) O HSTC 581(0A49) CRB 34-0 (807M)(NE)(VR)

SPOBRK RUDDER BOFLAP ELEVTR
65.000 .000 -11.700 4.160

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 491.6480 IN.
BREF 536.7000 IN.
XMRP 1081.3800 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



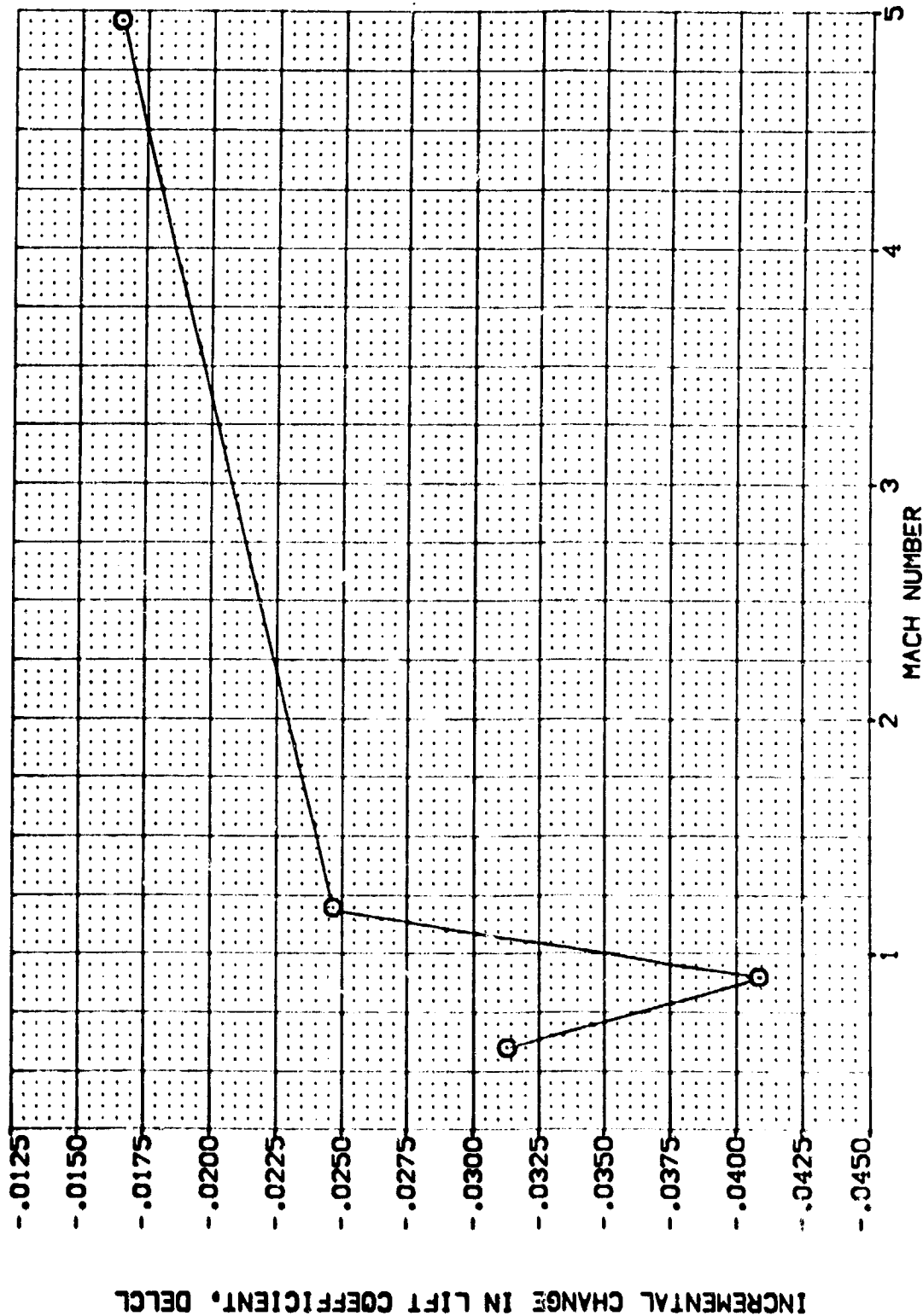
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPOBRK)

(B)ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (322449) O HFC 50(0449) 000 34-0 (00TH)(VE)(VR)

SPDBRK RUDDER BDFLAP ELEVTR
 65.000 .000 -11.700 4.160

REFERENCE INFORMATION
 SREF 2741.8000 90. FT
 LREF 481.6480 IN.
 BREF 525.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

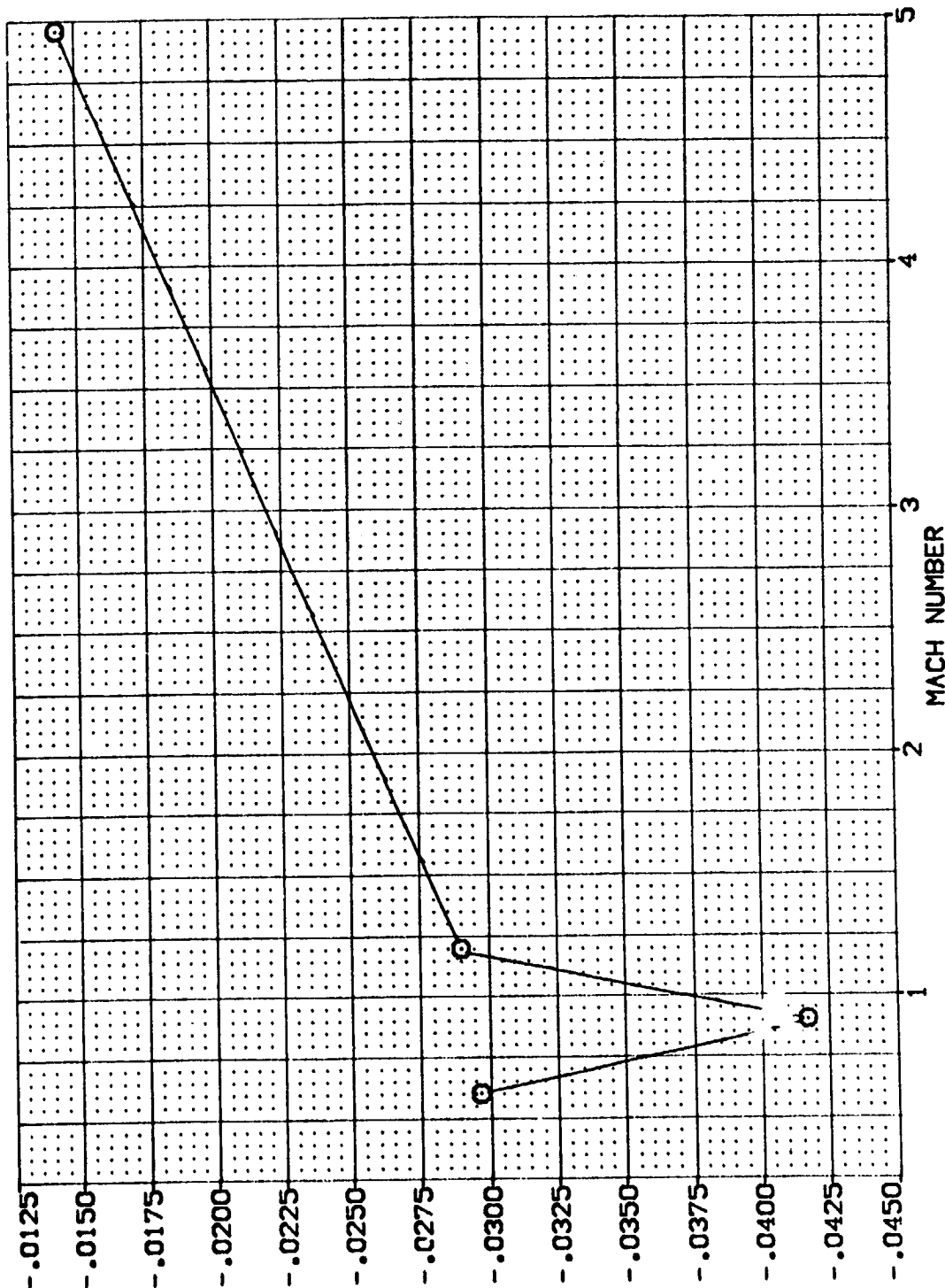
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(C) ALPHA = 10.00

DATA SET SYMBOL (302449) O HSC 501(0449) 058 34-0 (BOPM)(VE)(VR)

SPDBRK 85.000 RUDDER .000 BOFLAP 4.160 ELEVTR

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

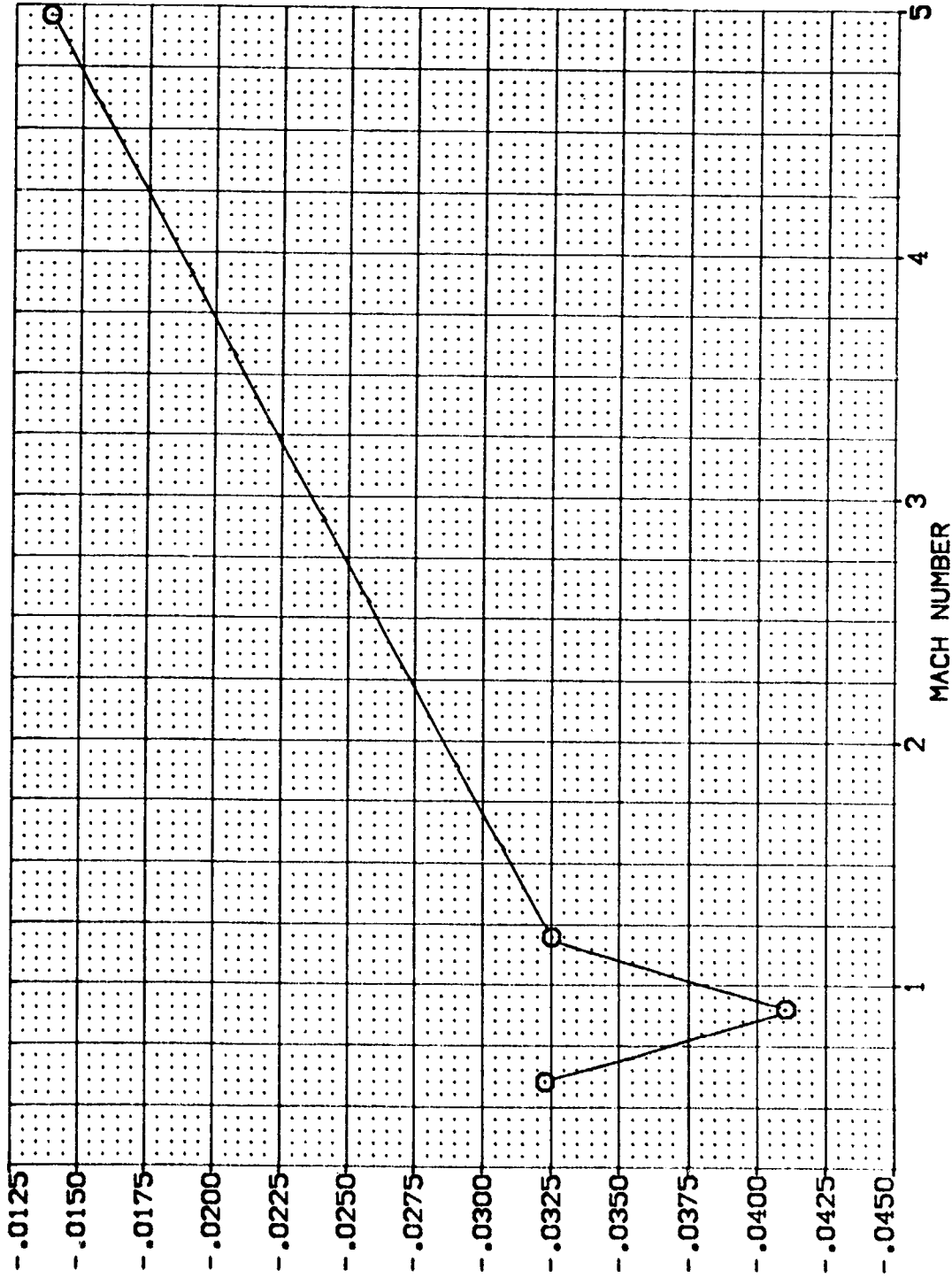
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(D)ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(982A48) O HFC 50(CM49) OFB 34-0 (BOFH)(VE)(VR)

SPDBRK RUDDER BOFLAP ELEVTR
65.000 .000 -11.700 4.160

REFERENCE INFORMATION
SREF 2741.8000 50. FT
LREF 481.6480 IN:
BREF 936.7000 IN:
XTRP 1081.3500 IN:
YTRP .0000 IN:
ZTRP .0000 IN:
SCALE .0040



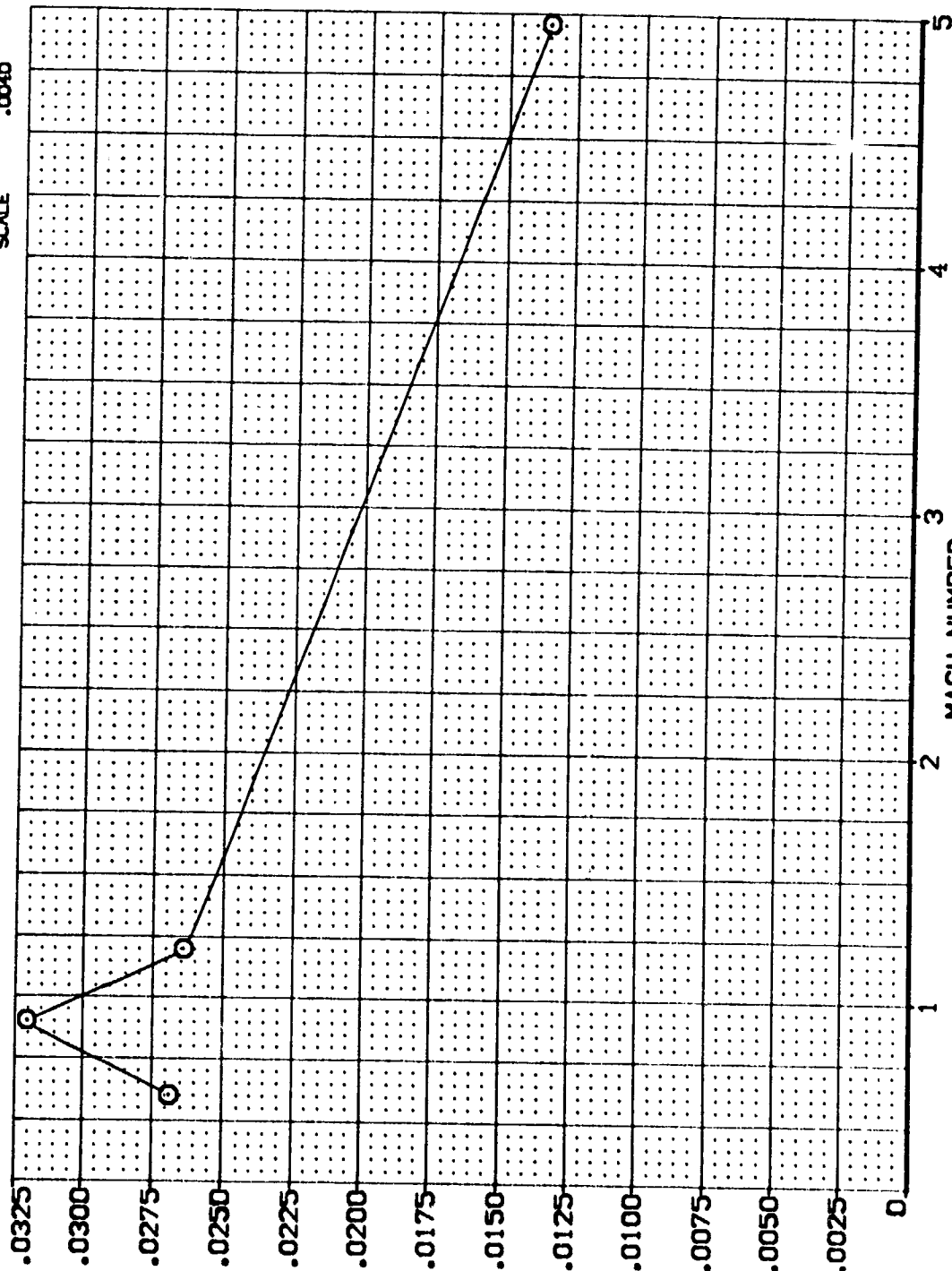
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(E)ALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (382248) ○ HSTC 581(049) 688 34-0 (BOFH)(VE)(VR)

SPDBRK RUDDER BOFLAP ELEVTR
 85.000 .000 -11.700 4.160

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

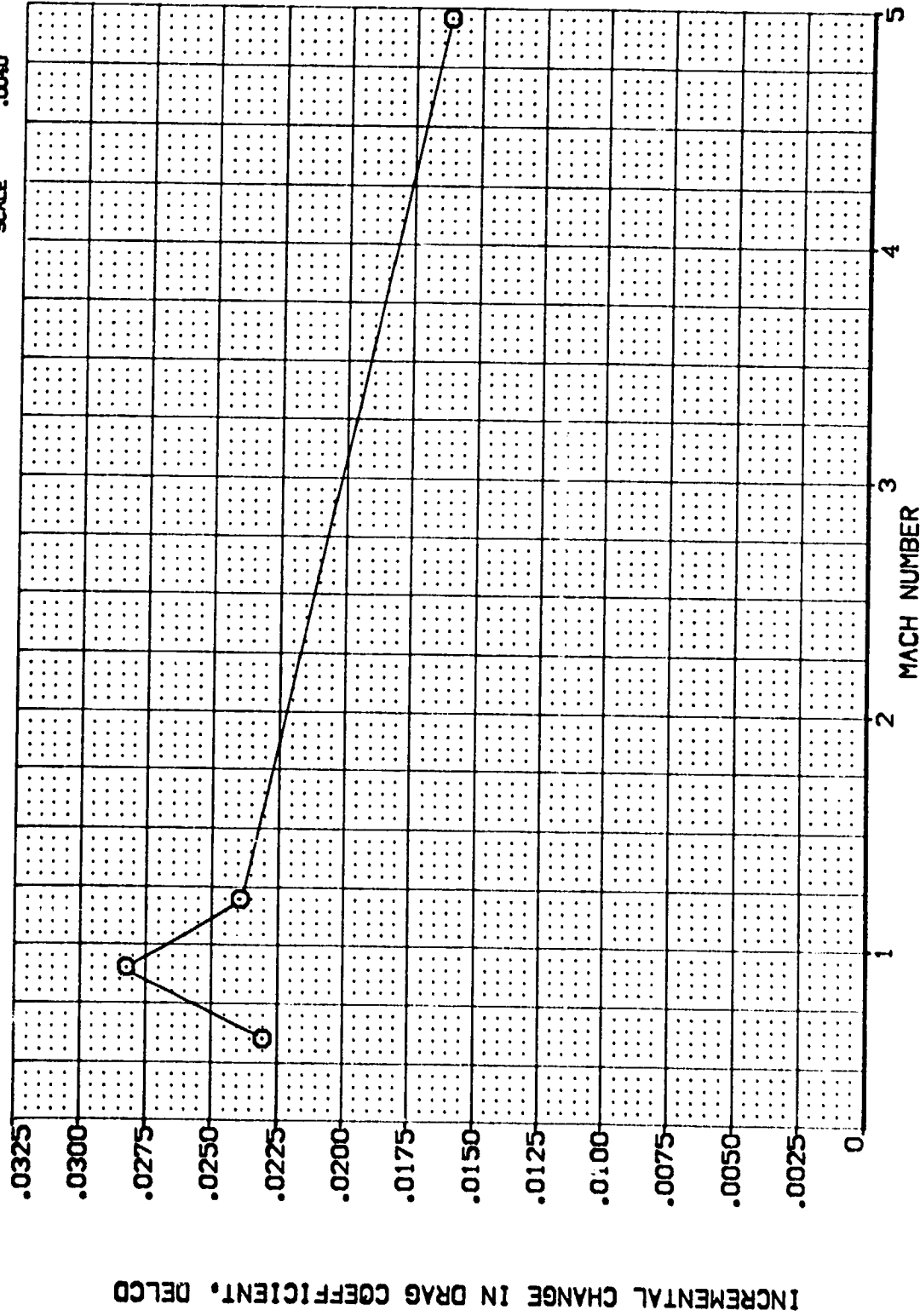
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (552A48) O MSFC 581(0A48) 08B 34-0 (BCFH)(VE)(VR)

SPDBRK RUDDER 80FLAP ELEVTR
 85.000 .000 -11.700 4.180

REFERENCE INFORMATION
 SREF 2741.8000 92. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XTRP 1081.3500 IN.
 YTRP .0000 IN.
 ZTRP .0000 IN.
 SCALE .0040



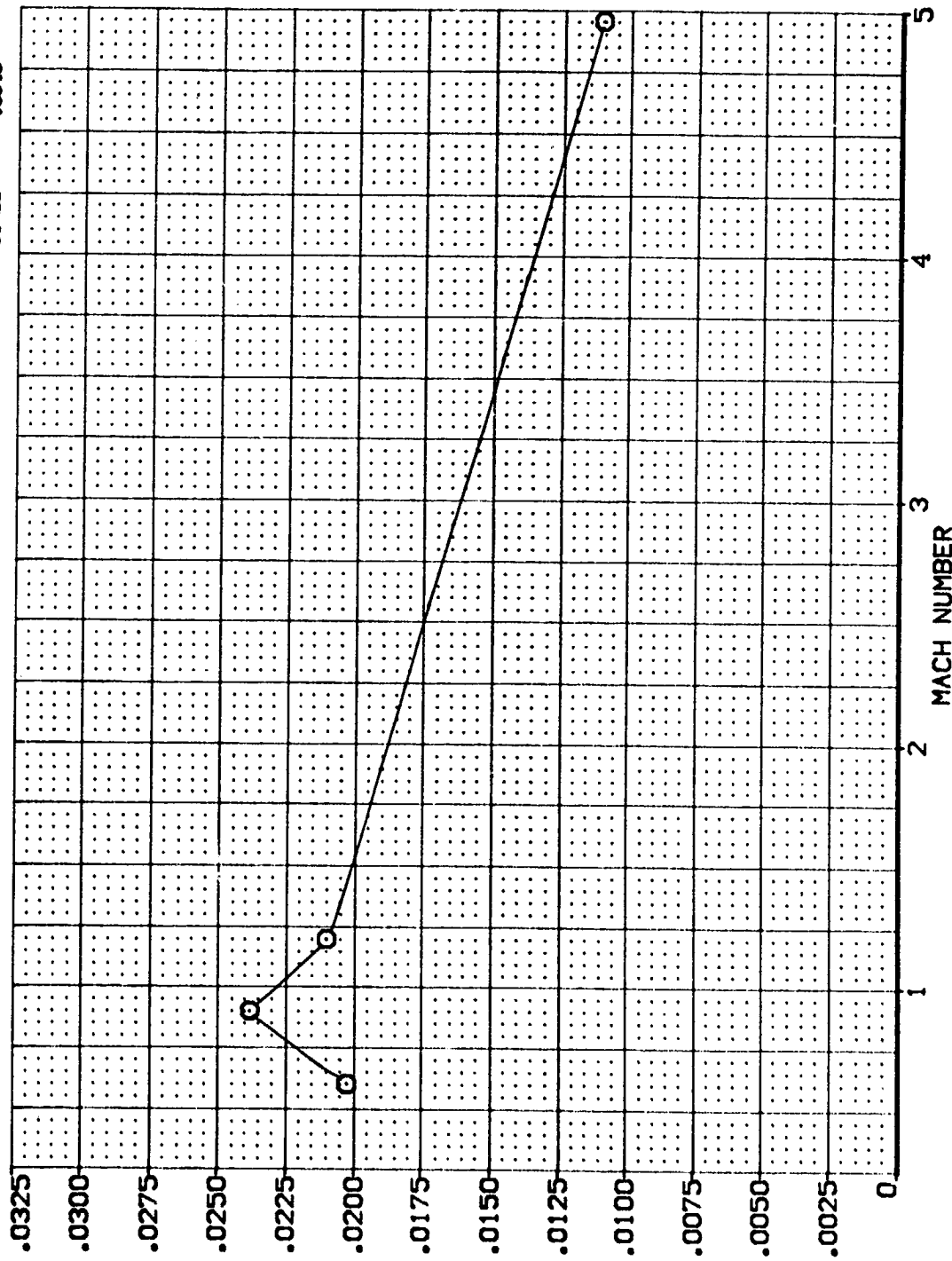
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(B)ALPHA = 5.00

DATA SET 5166L CONFIGURATION DESCRIPTION
 (802A48) O MSFC 581(0A49) 05B 34-0 (BCFH)(VE)(VR)

SPDBRK RUDDER BOFLAP ELEVTR
 85.000 .000 -11.700 4.160

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(CJALPHA = 10.00

DATA SET SYMBOL

CONFIGURATION DESCRIPTION

(9522448) O H5FC 581(DA19) 058 34-0 (BOFM)(VE)(VR)

SPDBRK

RUDDER

BOFLAP

ELEVTR

85.000

.000

-11.700

4.150

REFERENCE INFORMATION

SREF

LREF

BREF

XMRP

YMRP

ZMRP

SCALE

2741.8000

481.6480

936.7000

1081.3500

.0000

.0000

.0040

SQ. FT

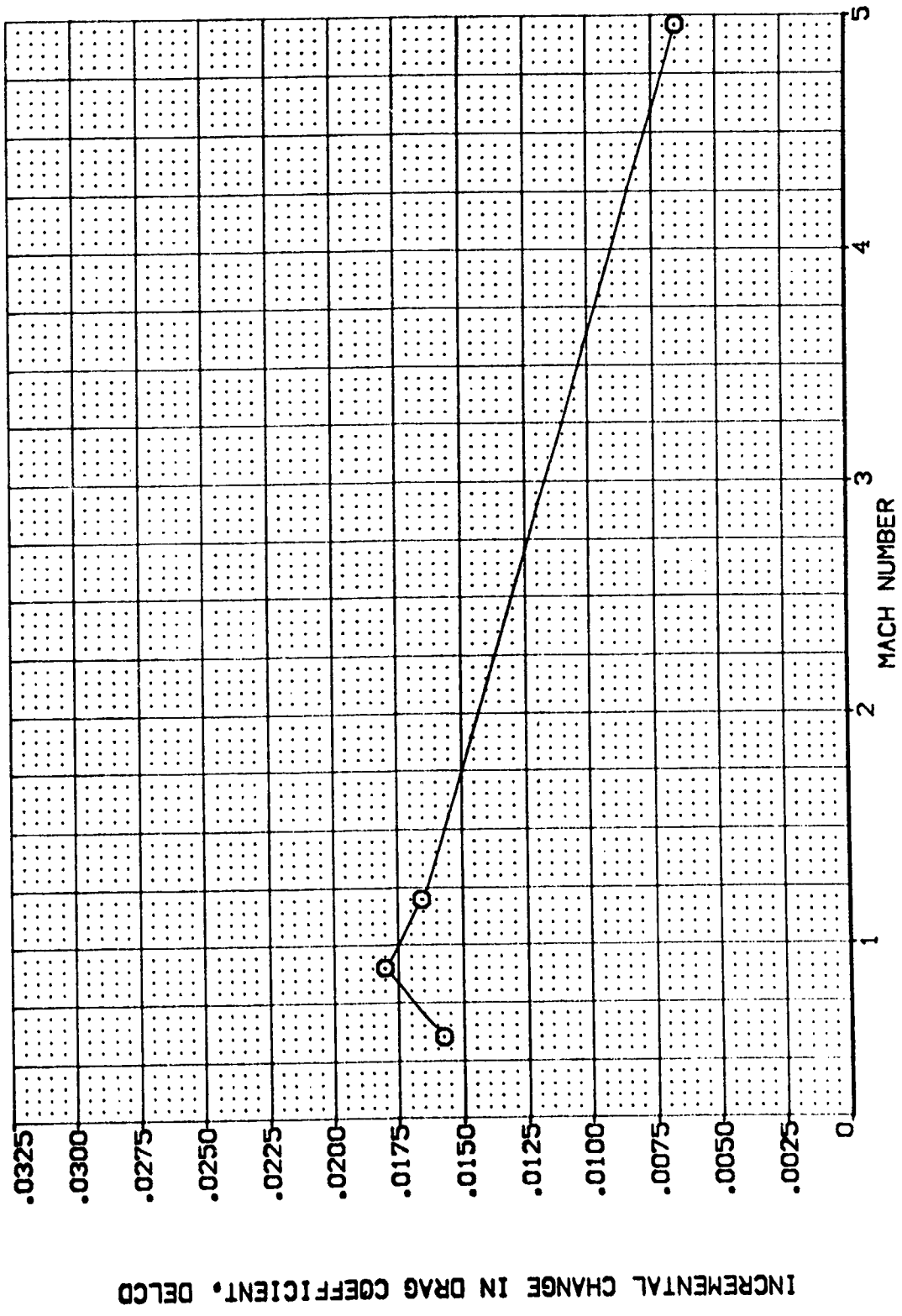
IN.

IN.

IN.

IN.

IN.



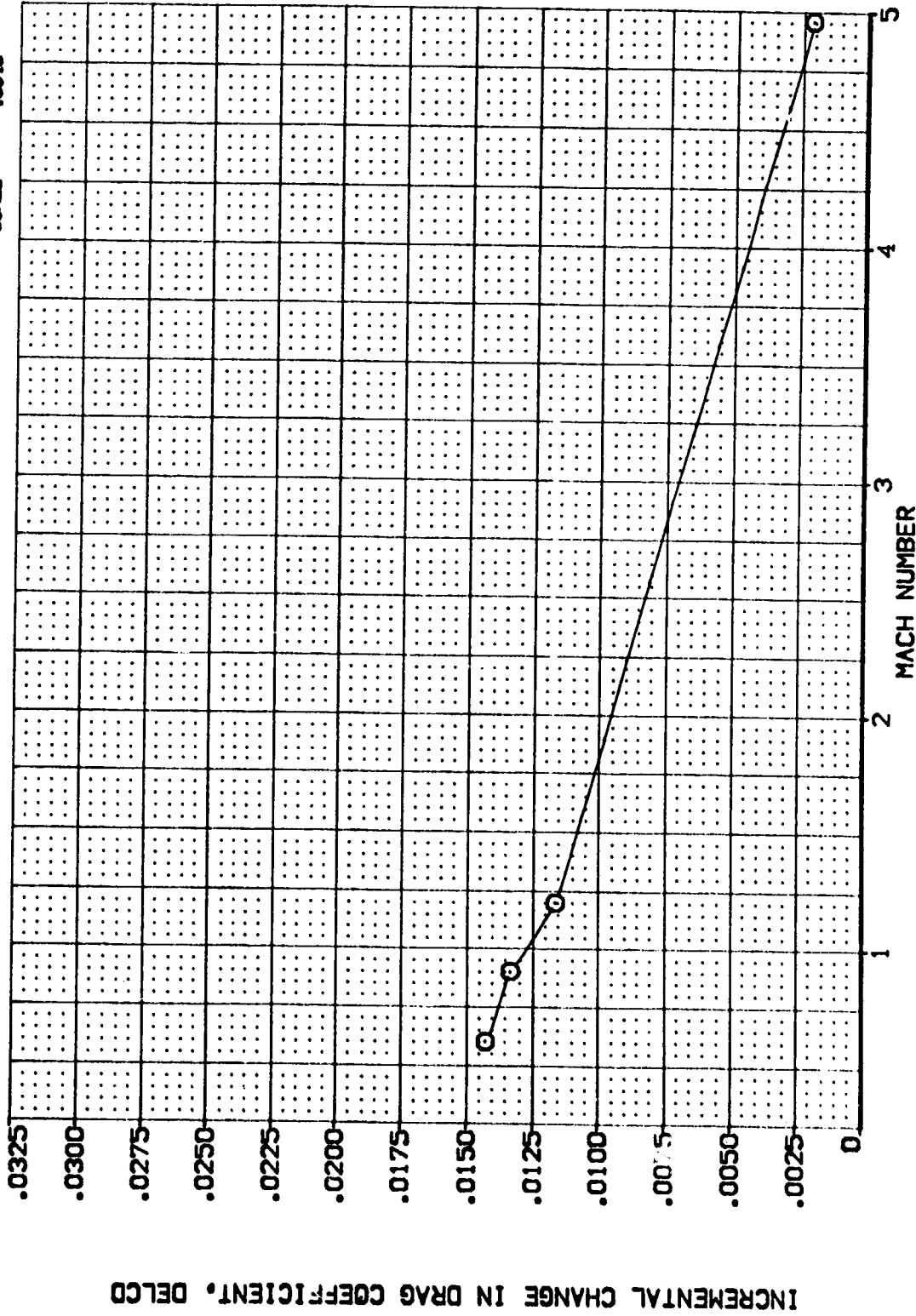
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(CD)ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(952048) O H5FC 581(0449) 0RB 34-0 (BDPH)(VE)(VR)

SPOBRK RUDDER BDCLAP ELEVTR
65.000 .000 -11.700 4.160

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XPRP 1081.3900 IN.
YPRP .0000 IN.
ZPRP .0000 IN.
SCALE .0040



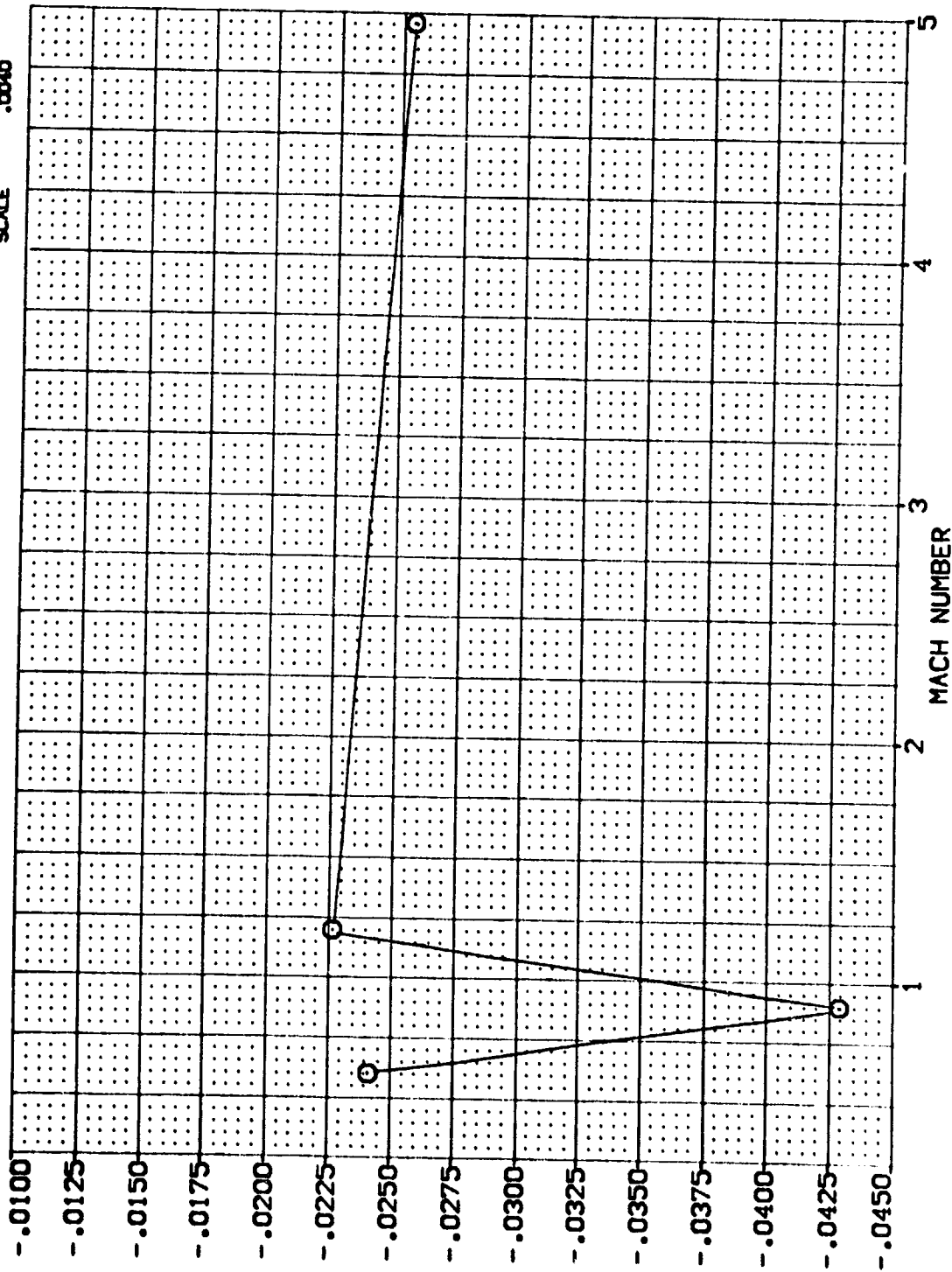
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

CEJALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (882448) O MSC 581(045) 018 34-0 (80FM)(VE)(VR)

SPDBRK 85.000 RUDDER .000 BDFLAP -11.700 ELEVTR 4.180
 REFERENCE INFORMATION
 SREF 2741.8000 90. FT
 LREF 481.6480 IN.
 BREF 935.7000 IN.
 XREF 1081.2500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

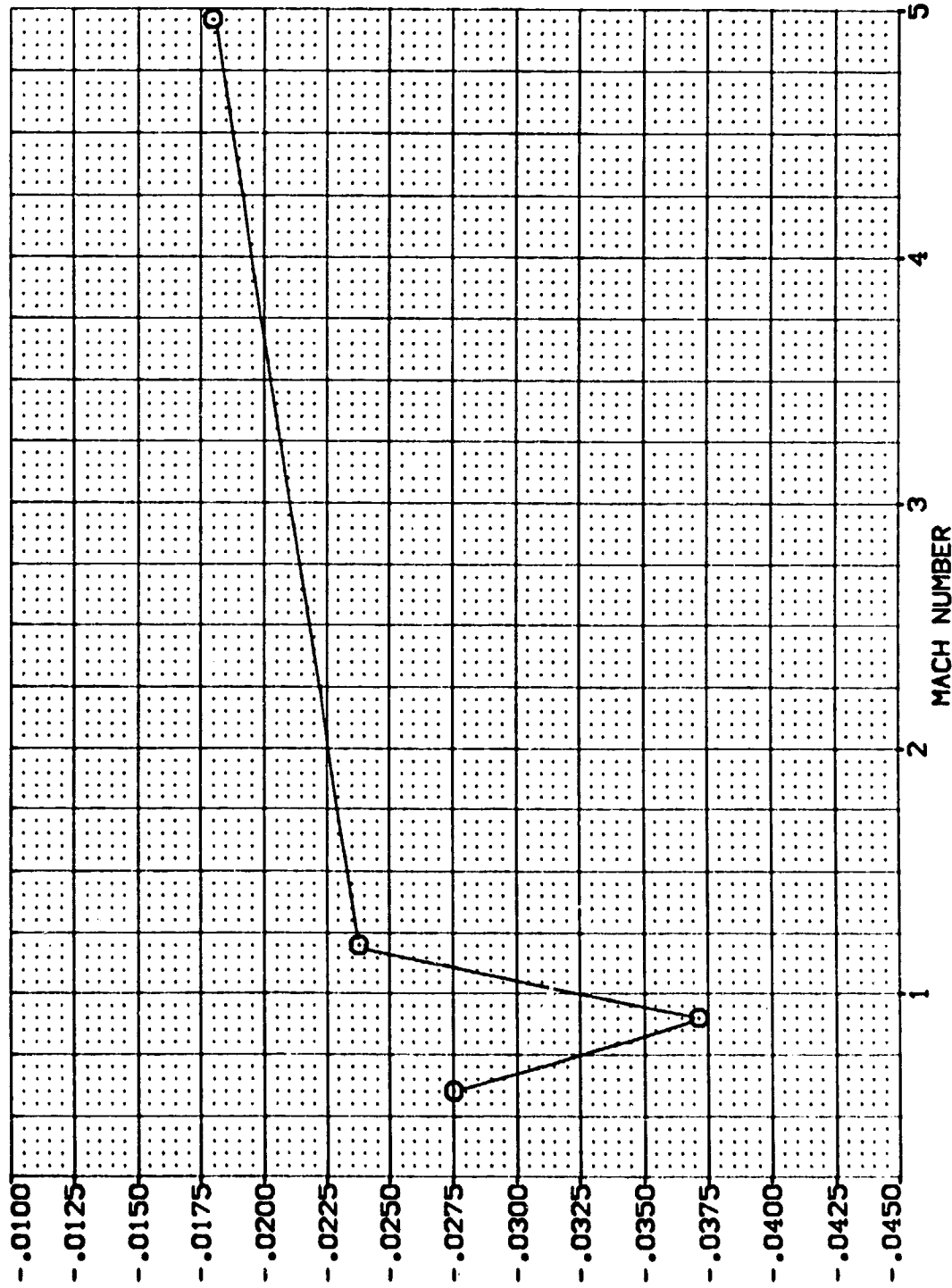
(ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(902448) O HFC 501(049) 098 34-0 (80PH)(VE)(VR)

SPDBRK RUDDER BOFLAP ELEVTR
65.000 .000 -11.700 4.160

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

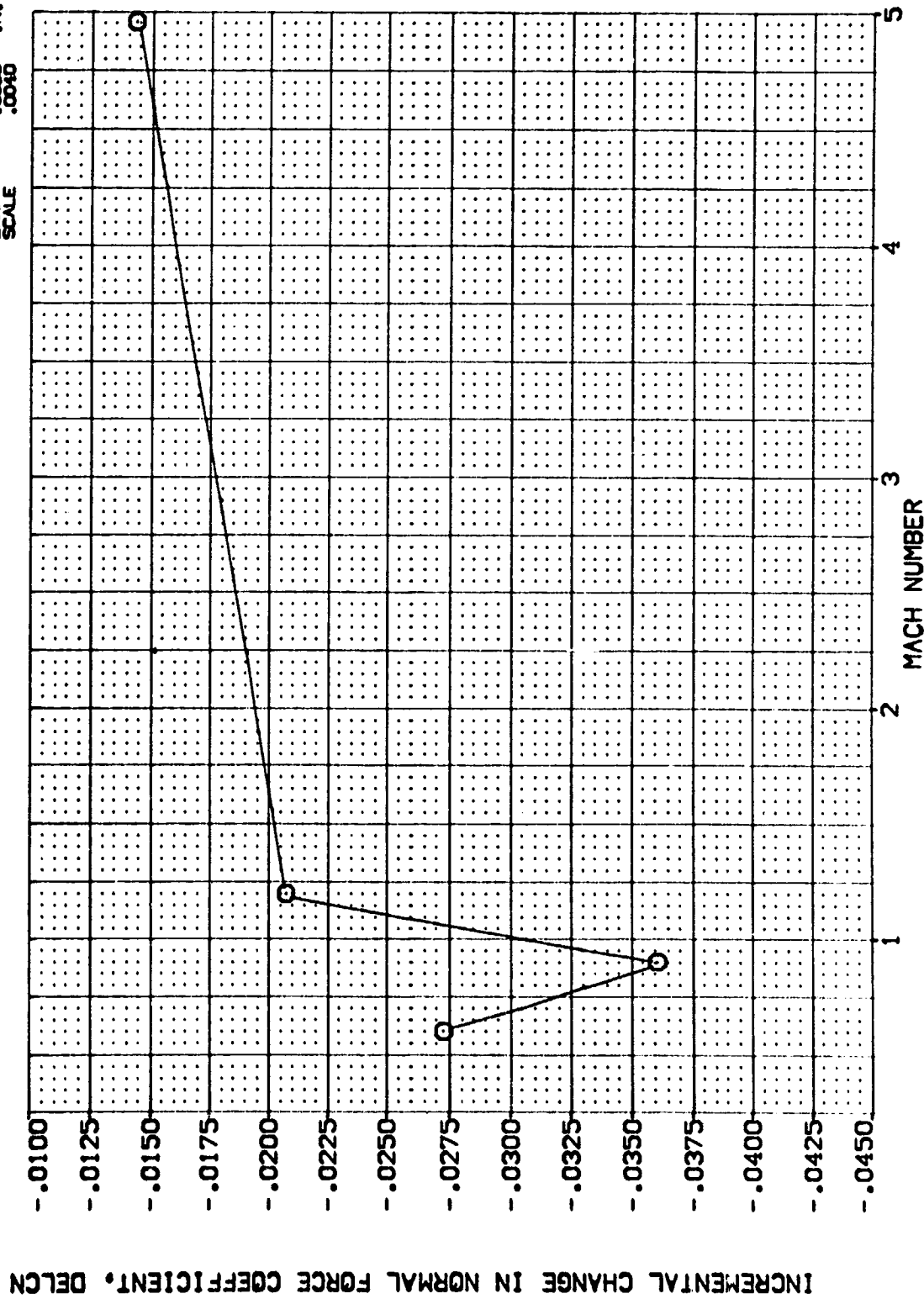


SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(B) ALPHA = 5.00

DATA SET 5180L CONFIGURATION DESCRIPTION
 (552A48) O HPT 50(10449) DB 34-0 (BOTH)(VE)(VR)
 REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

SPDBRK 65.000 RUDDER .000 BOFLAP -11.700 ELEVTR 4.160



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

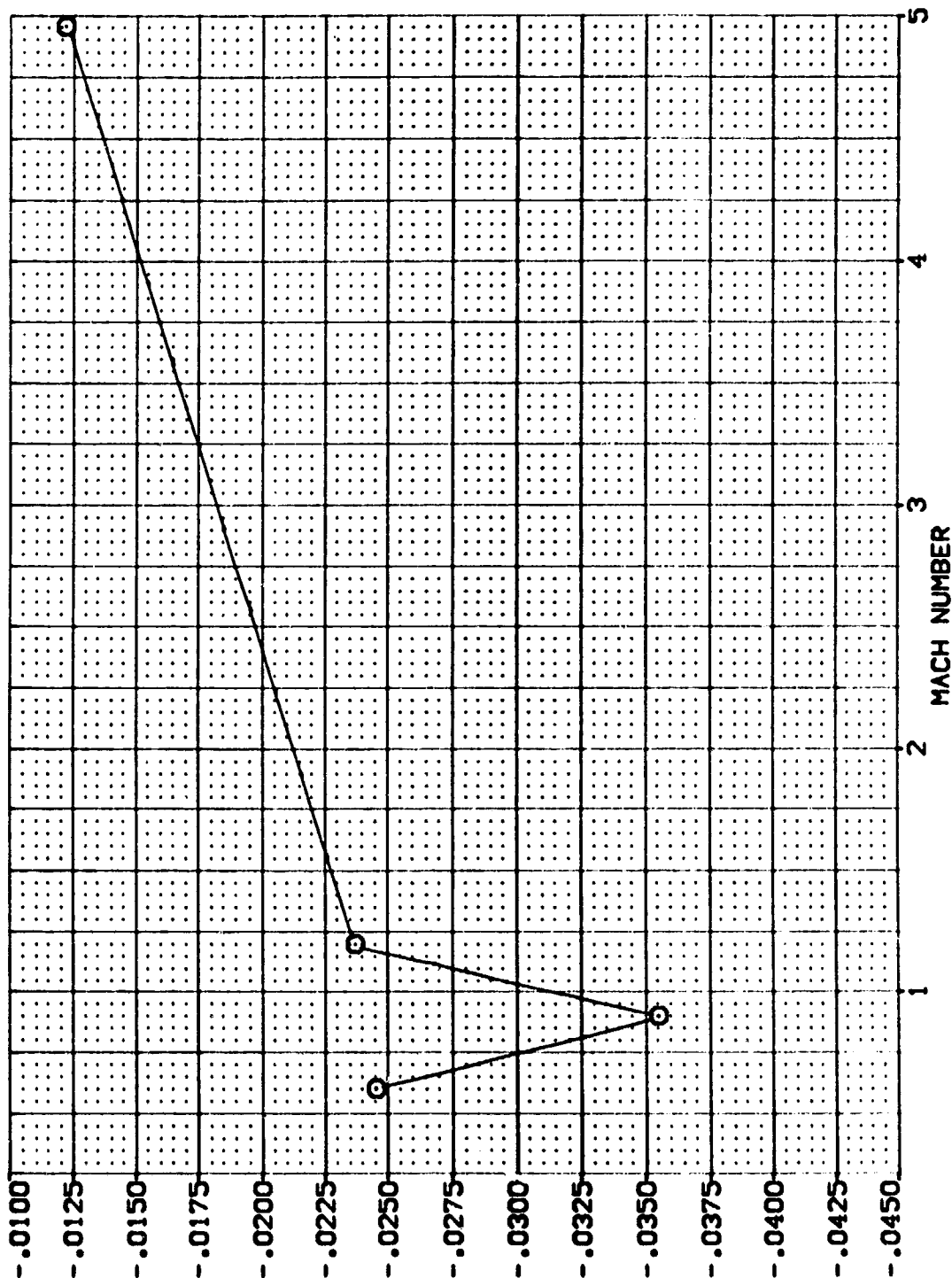
(C) ALPHA = 10.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (302A49) O HFTC 591(0A49) 08B 34-0 (05TH)(VE)(VR)

SPDBRK RUDDER BDCLAP ELEVTR
 65.000 .000 -11.700 4.160

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

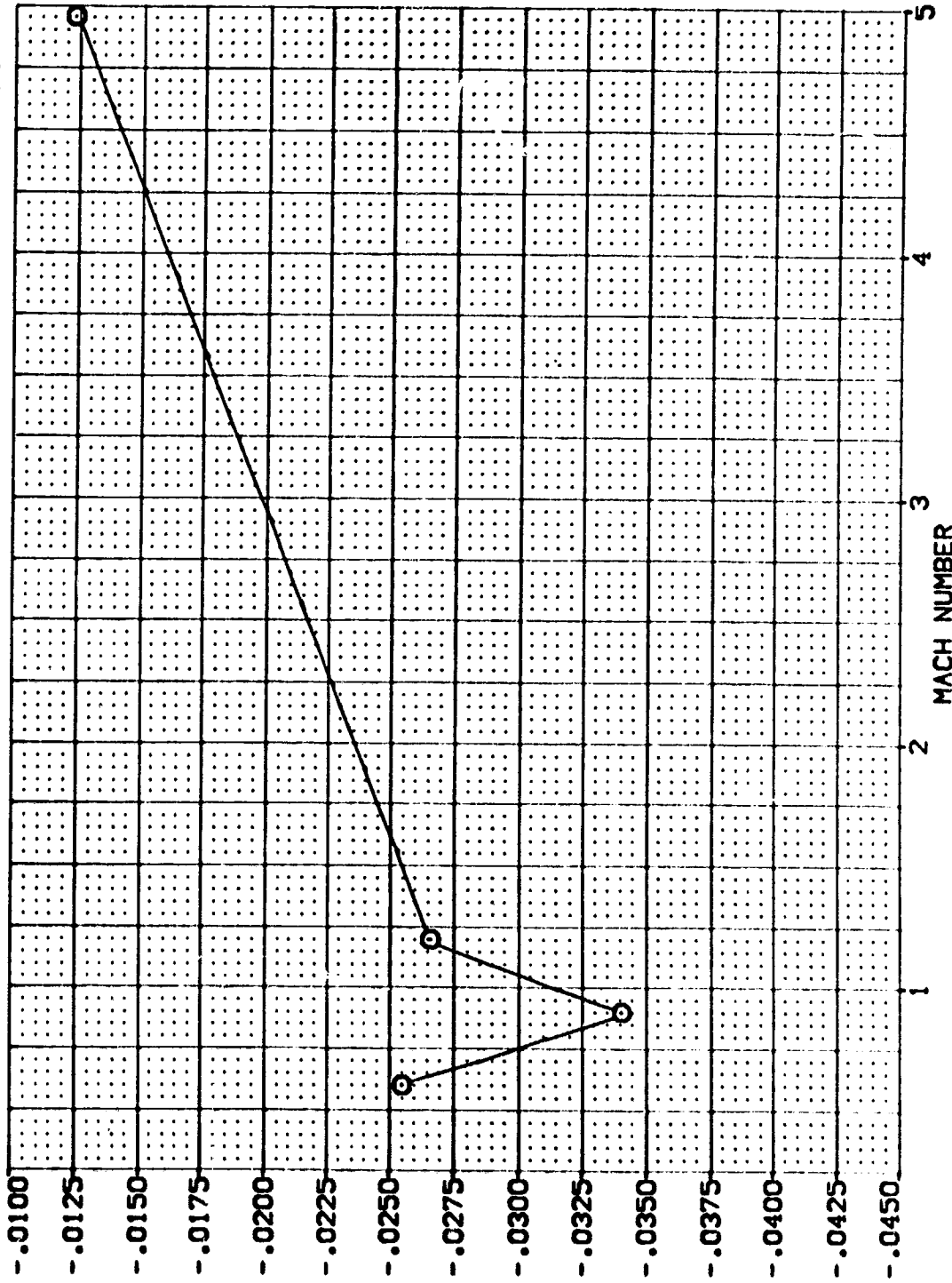
(O) ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(832048) O HFC 281(0A45) C8B 24-0 (BDFN)(VE)(VR)

SPDBRK 85.000 RUDDER .000 BDFLAP -11.700 ELEVTR 4.160

REFERENCE INFORMATION
SREF 2741.8000 90. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XREF 1081.3500 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



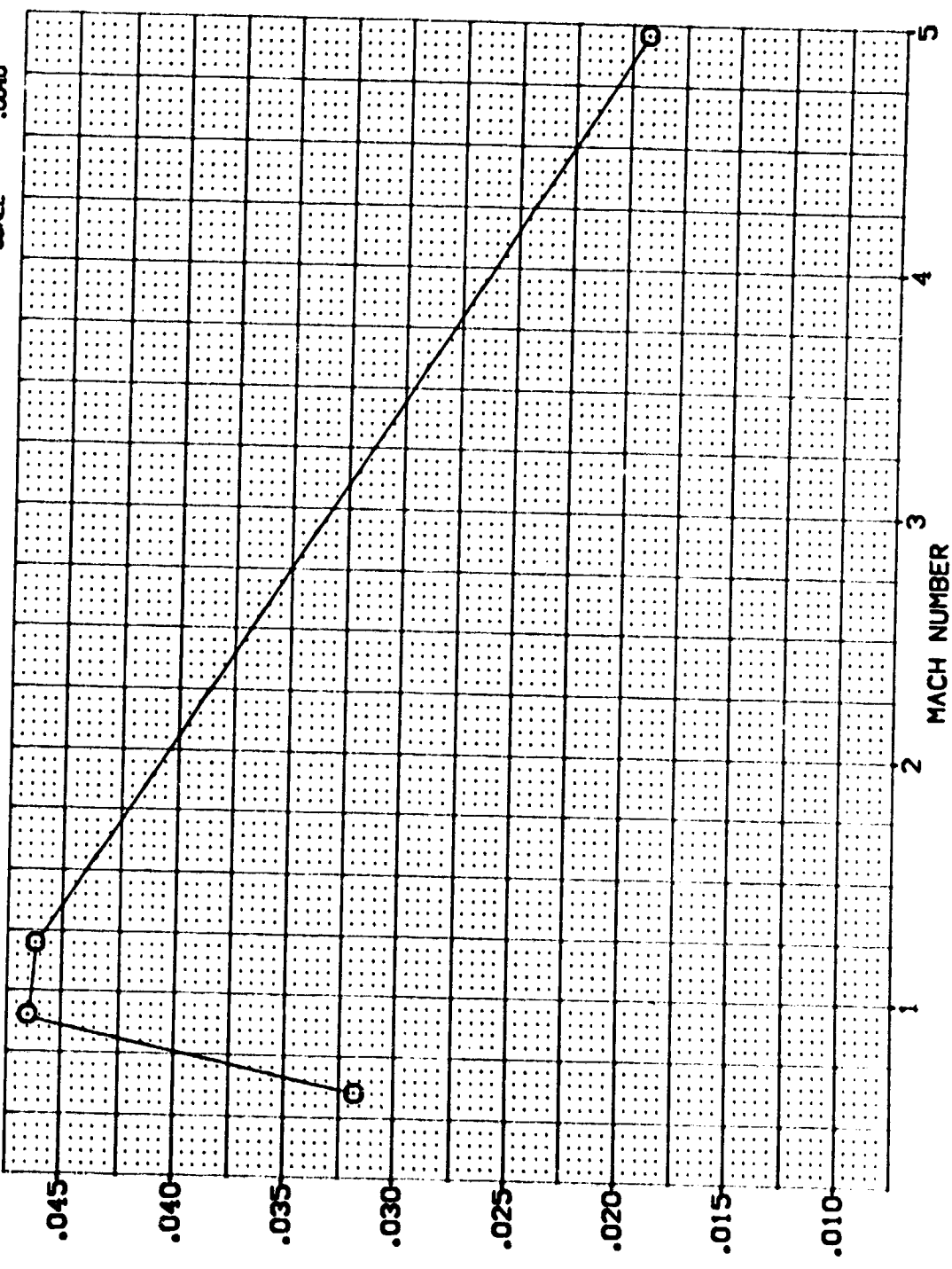
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(C)ALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (822448) ○ HSC 50(048) 048 34-0 (BDP)(VE)(VR)

SPDBRK RUDDER BDFLAP ELEVTR
 65.000 .000 -11.700 4.160

REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 481.6480 IN.
 BREF 535.7000 IN.
 XPRP 1081.3800 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLH

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

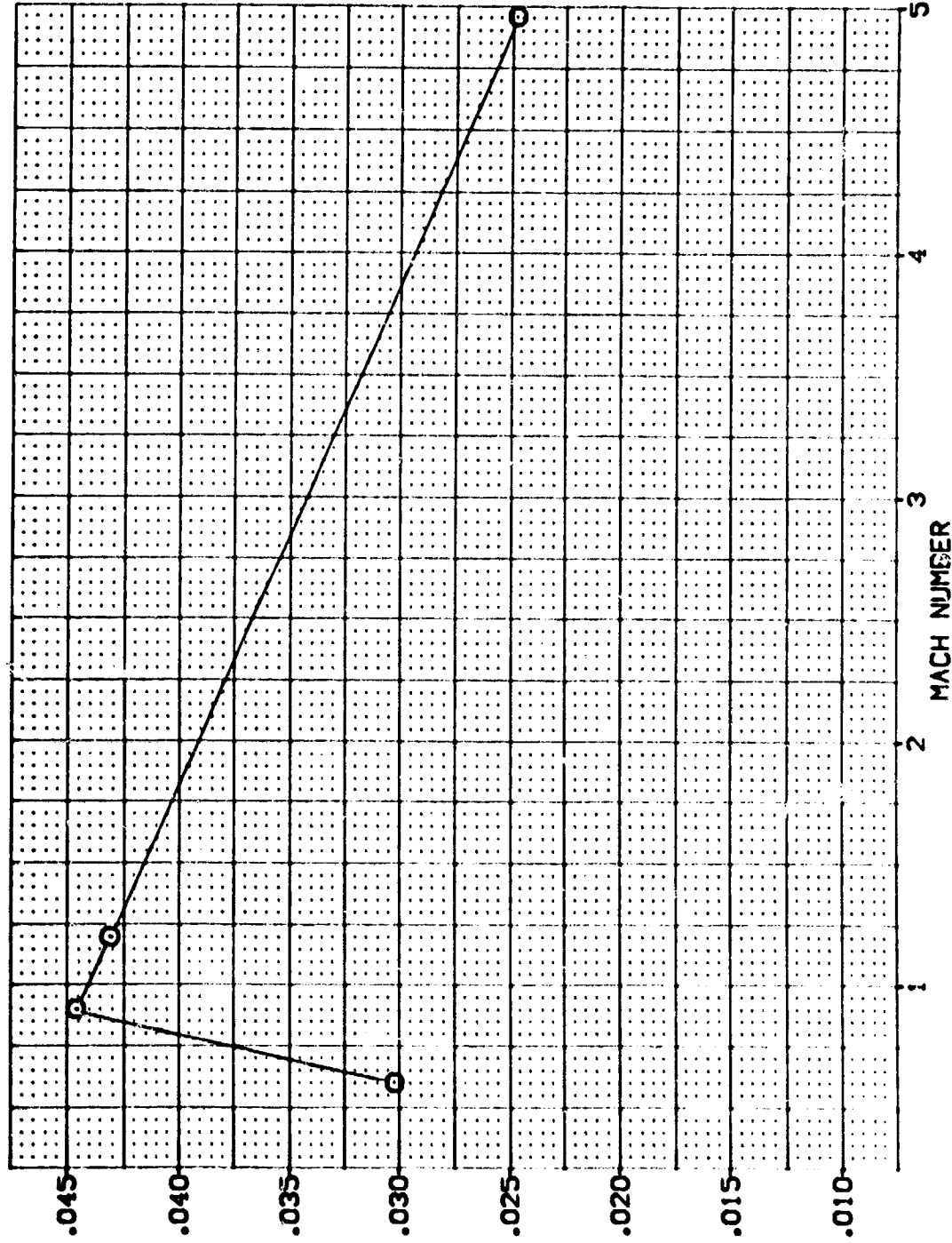
(A) ALPHA = .00

DATA SET SPEED. CONFIGURATION DESCRIPTION:
(822448) O NPT 331(049) 078 34-0 (BDN)(VE)(VR)

SPDBRK RUDDER BDFLAP ELEVTR
65.000 .000 -11.700 4.180

REFERENCE INFORMATION
SREF 2741.8000 SG. FT
LREF 481.6480 IN.
BREF 508.7000 IN.
XREF 1081.3500 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



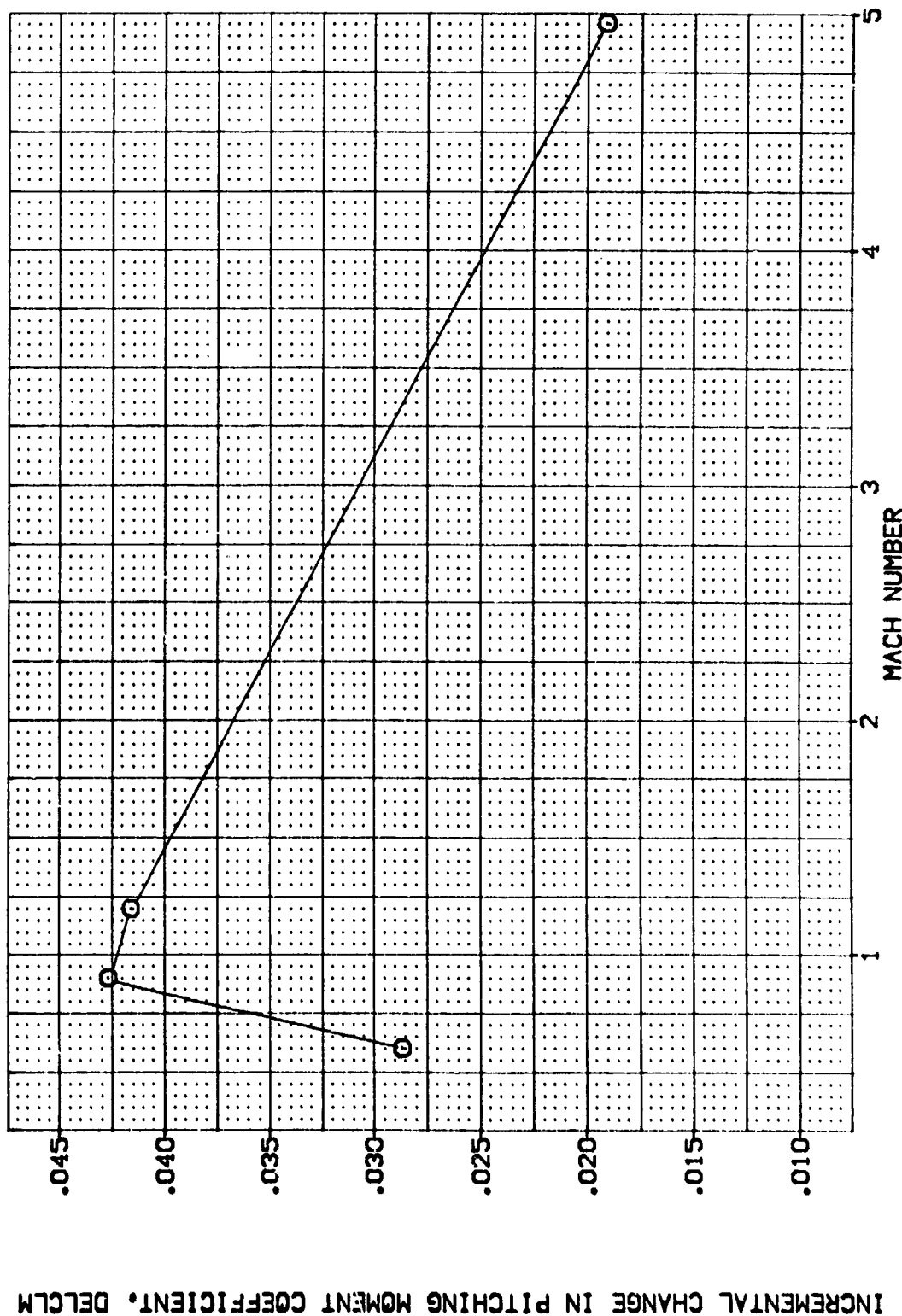
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(B)ALPHA = 5.00

DATA SET SYMBOL: 0
 CONFIGURATION DESCRIPTION: HSTC 591(CA49) 088 34-0 (BDFH)(VE)(VR)

SPDBRK: 65.000
 RUDDER: .000
 BDFLAP: -11.700
 ELEVTR: 4.160

REFERENCE INFORMATION:
 SREF: 2741.8000 SQ. FT
 LREF: 481.6480 IN.
 BREF: 536.7000 IN.
 XMRP: 1081.3500 IN.
 YMRP: .0000 IN.
 ZMRP: .0000 IN.
 SCALE: .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

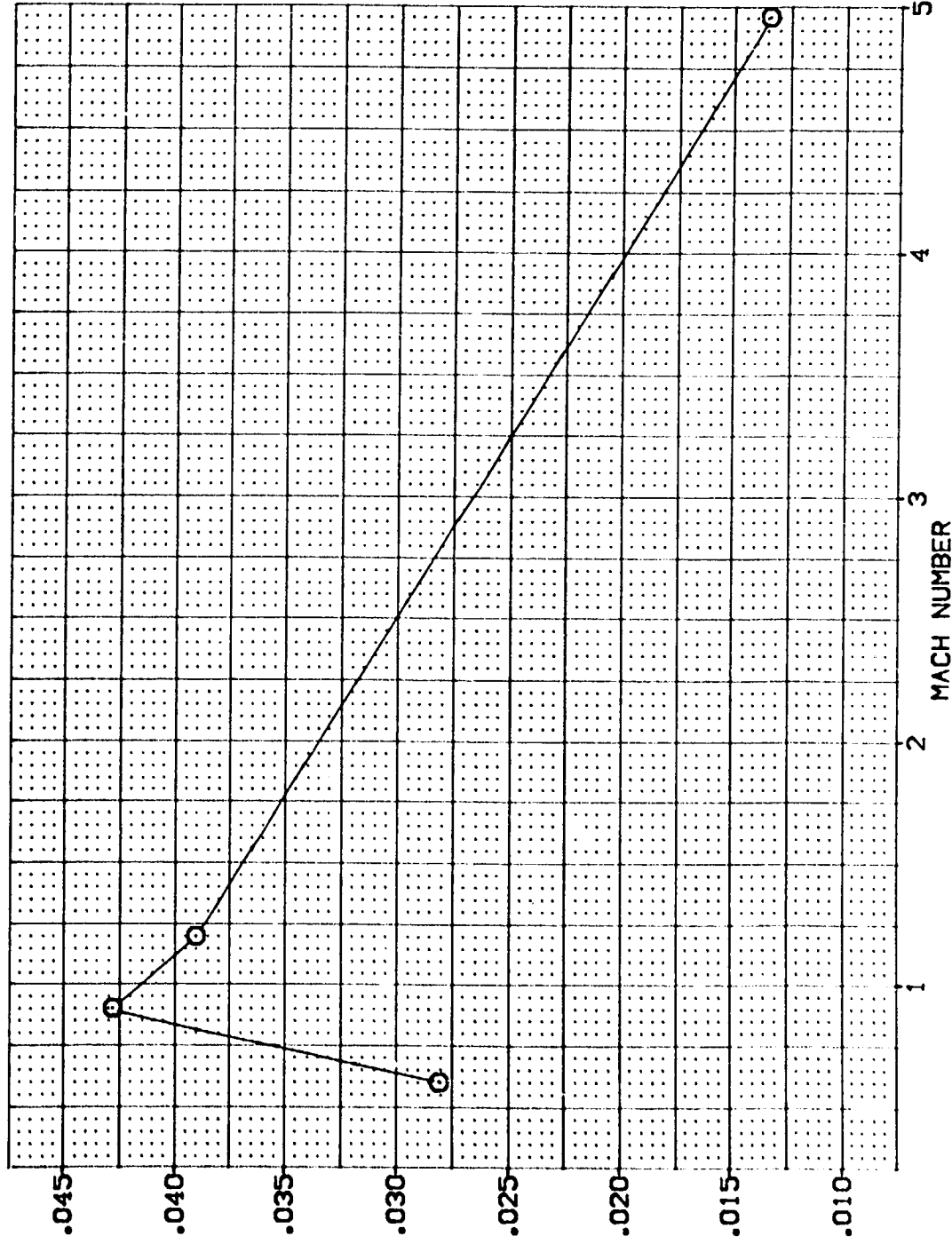
[CJALPHA = 10.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (882448) O MFC 581(0449) 058 34-0 (BOFM)(VE)(VR)

SPDBRK RUDDER BOFLAP ELEVTR
 85.000 .000 -11.700 4.160

REFERENCE INFORMATION
 SREF 2741.8000 90. FT
 LREF 481.6460 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0049

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



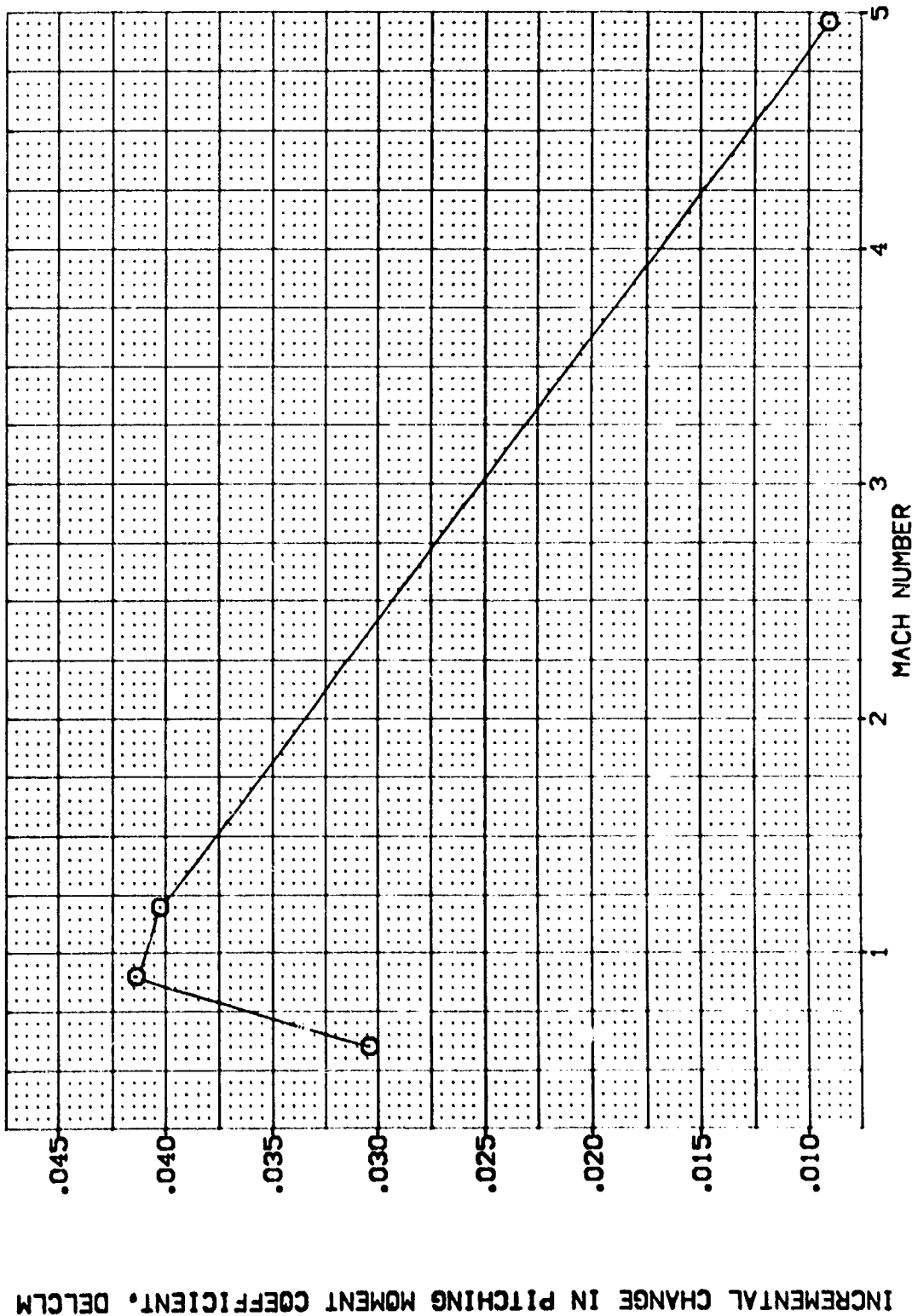
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(CD)ALPHA = 15.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(1922A49) O H5TC 581(0449) 08B 34-0 (BDTH)(VE)(VR)

SPDBRK RUDDER BDFLAP ELEVTR
85.000 .000 -11.700 4.160

REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 491.6480 IN.
BREF 936.7000 IN.
XREF 1081.3500 IN.
YREF .0000 IN.
ZREF .0000 IN.
SCALE .0040



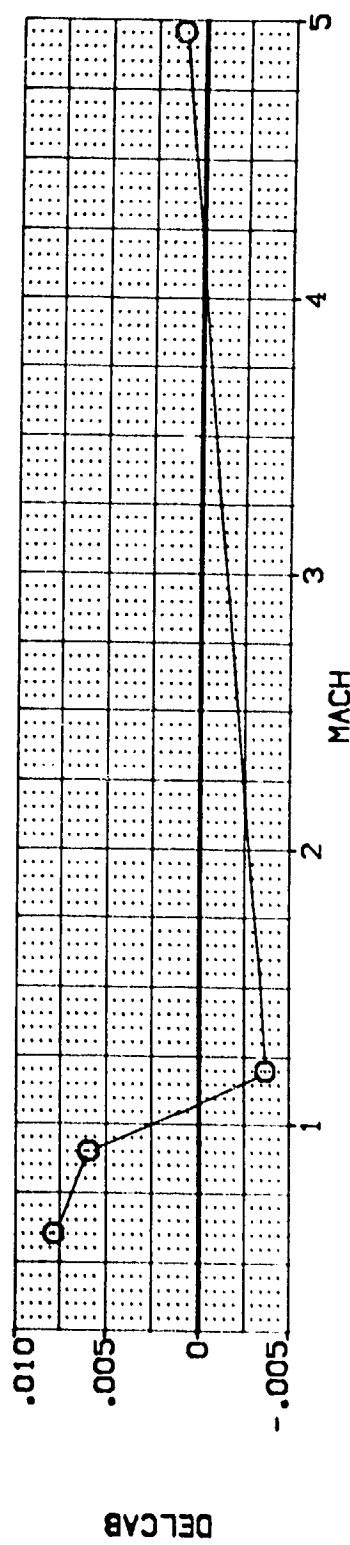
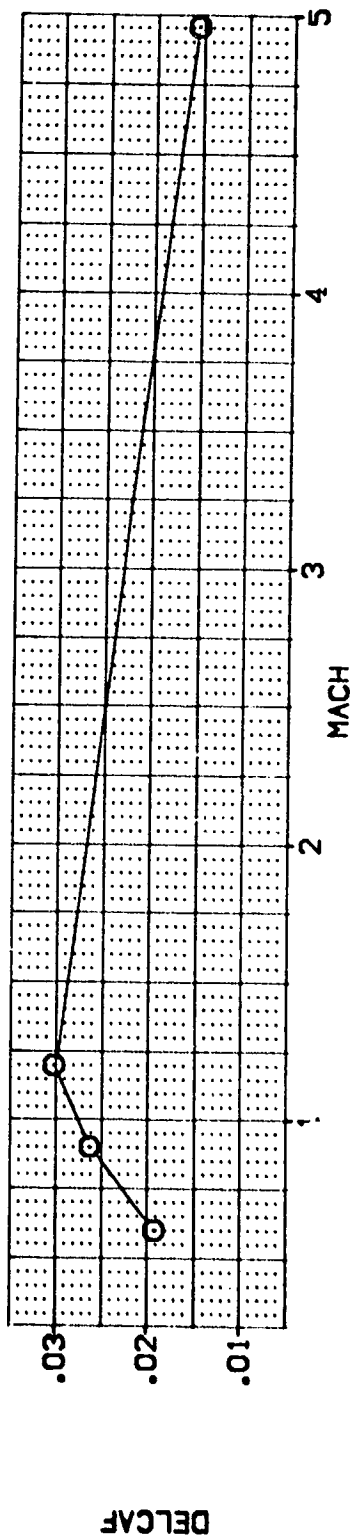
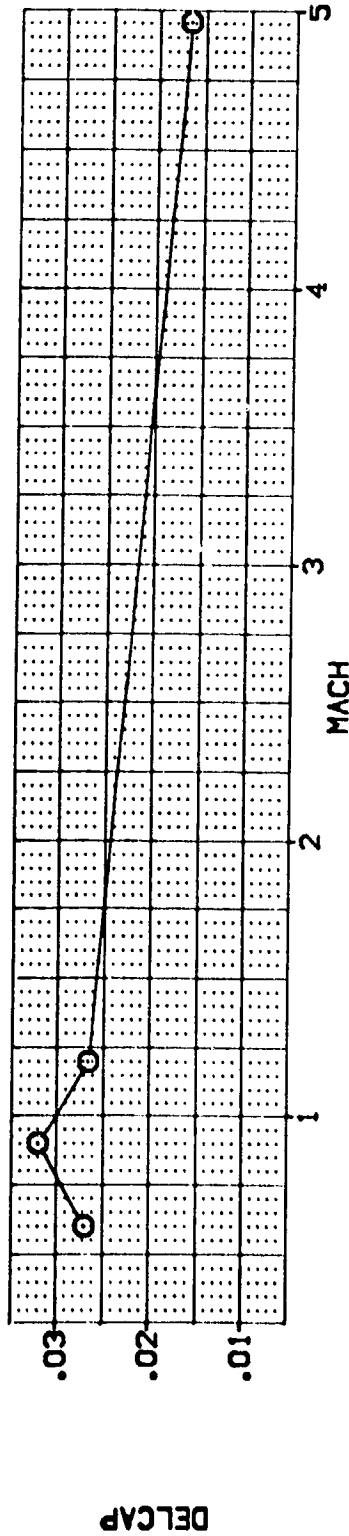
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(EJALPHA = 20.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (882048) ○ HFC 501(CAS) 55 34-0 (BDFH)(VE)(VR)

SPOBRK RUDDER BOFLAP ELEVTR
 85.000 .000 -11.700 4.180

REFERENCE INFORMATION
 SREF 2741.8000 90. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XREF 1081.2800 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



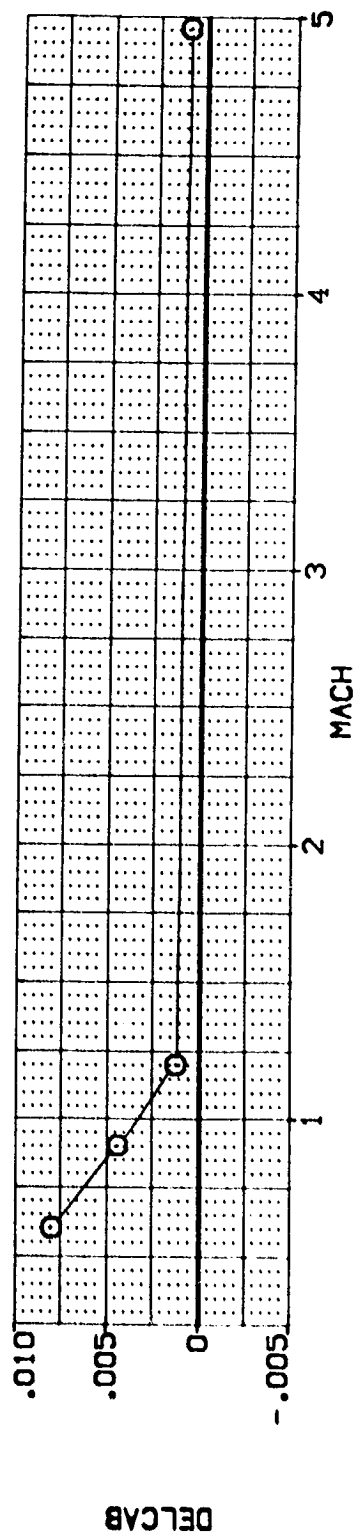
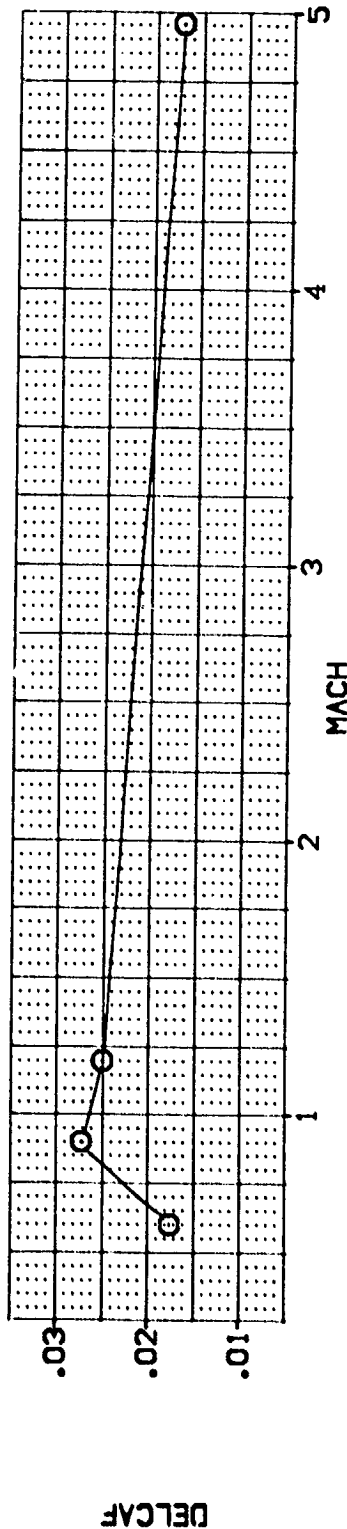
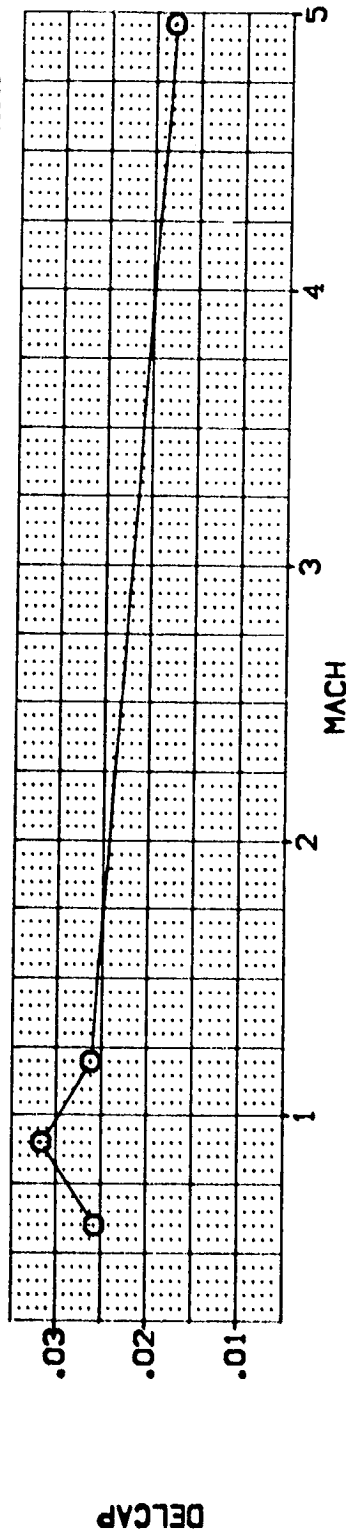
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(ALPHA) = .00

DATA SET 51980L CONFIGURATION DESCRIPTION
 (S22A48) O MSFC 581(DMS) 088 34-0 (BCFH)(WE)(VR)

SPDBRK RUDDER BOFLAP ELEVTR
 85.000 .000 -11.700 4.160

REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 481.6480 IN.
 BREF 906.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



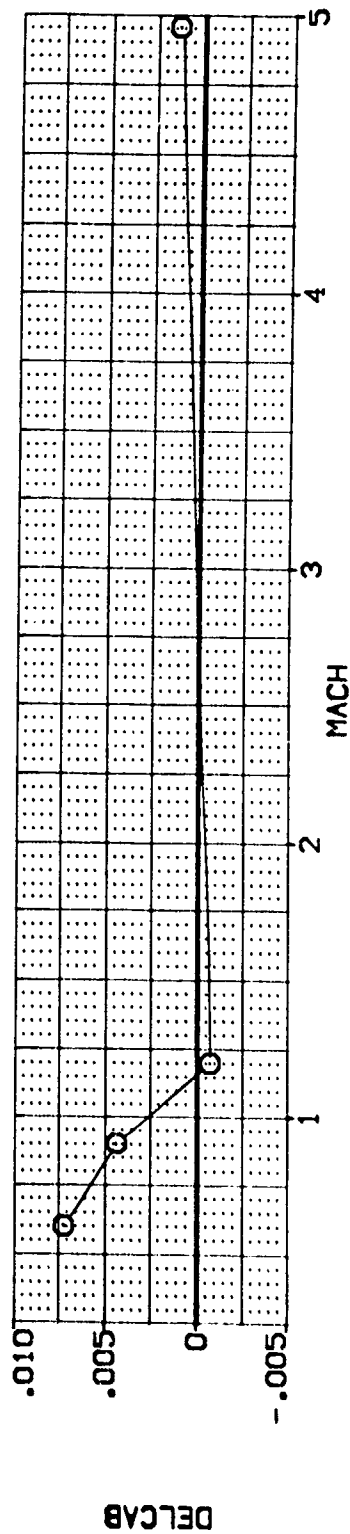
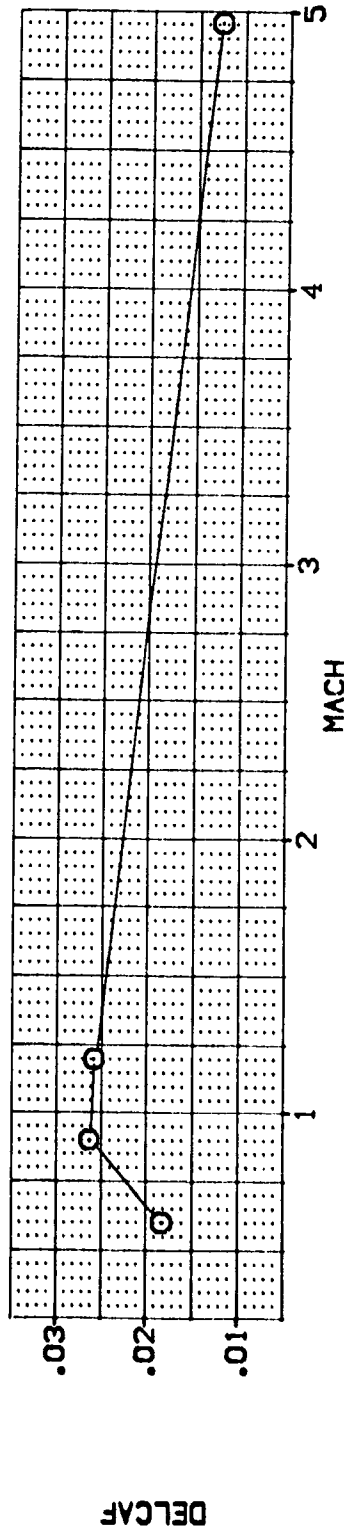
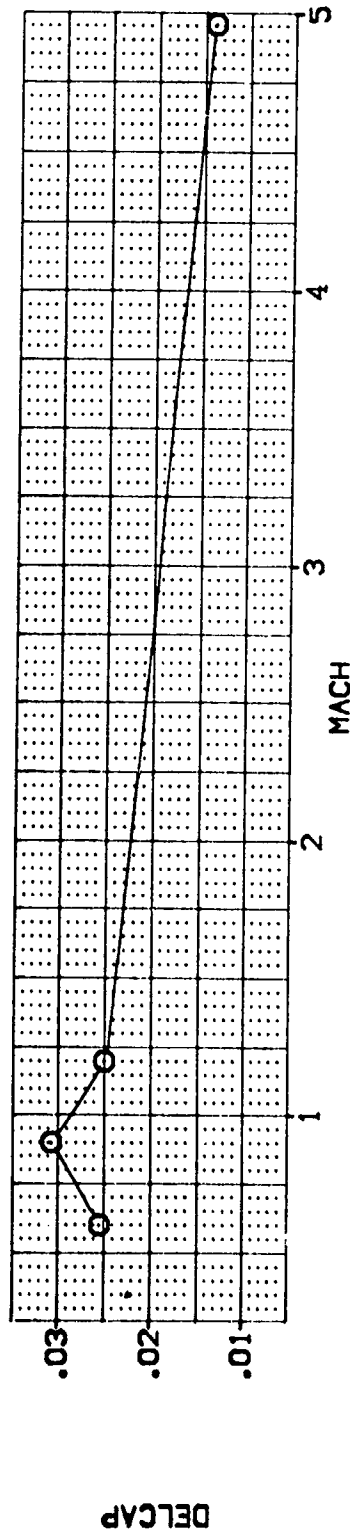
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(B)ALPHA = 5.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (382A49) O MSFC 581(0449) 088 34-0 (BOFH)(VE)(VR)

SPDBRK RUDDER BOFLAP ELEVTR
 85.000 .000 -11.700 4.160

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 935.7000 IN.
 YMRP 1081.3500 IN.
 ZMRP .0000 IN.
 SCALE .0040

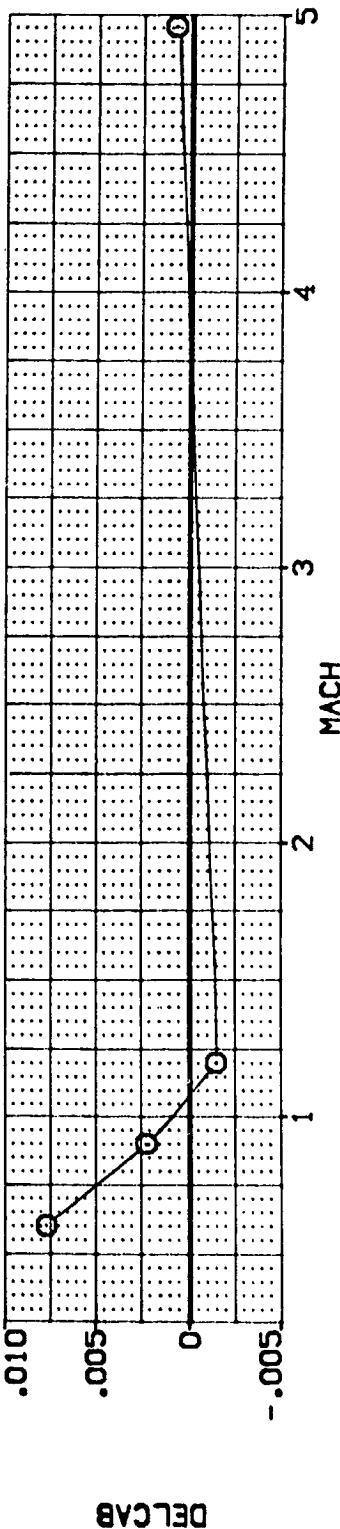
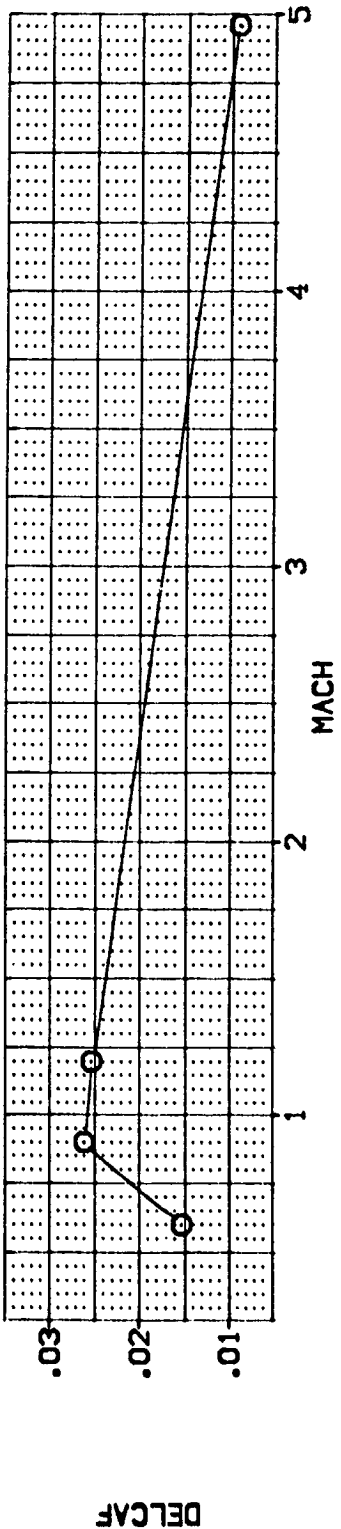
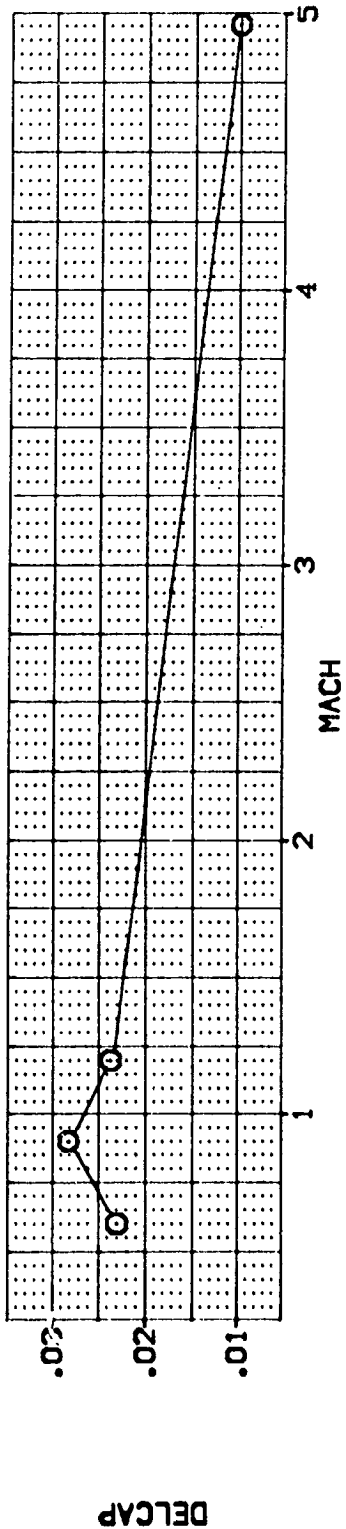


SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(CJALPHA = 10.00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (982A48) O MSFC 581(GA49) 088 34-0 (BDPH)(VE)(VR)

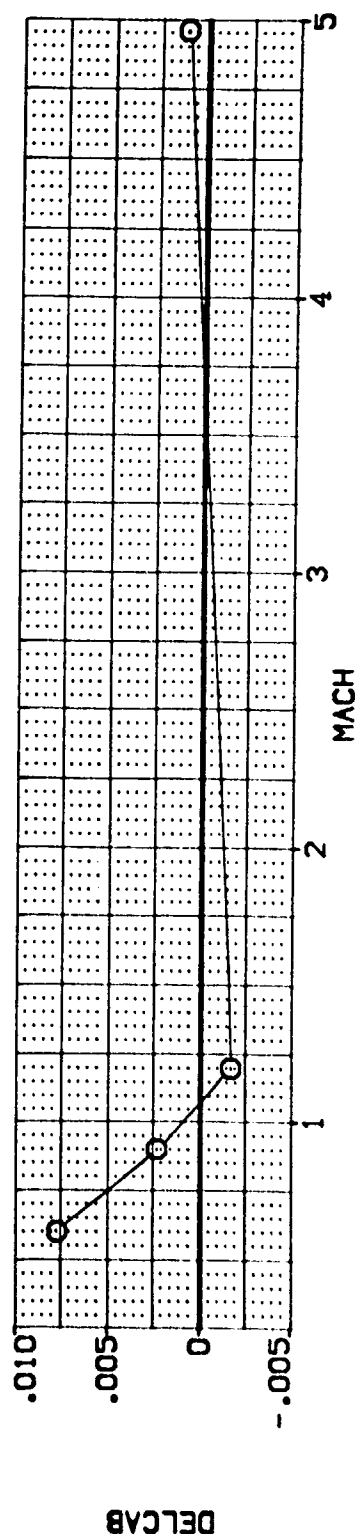
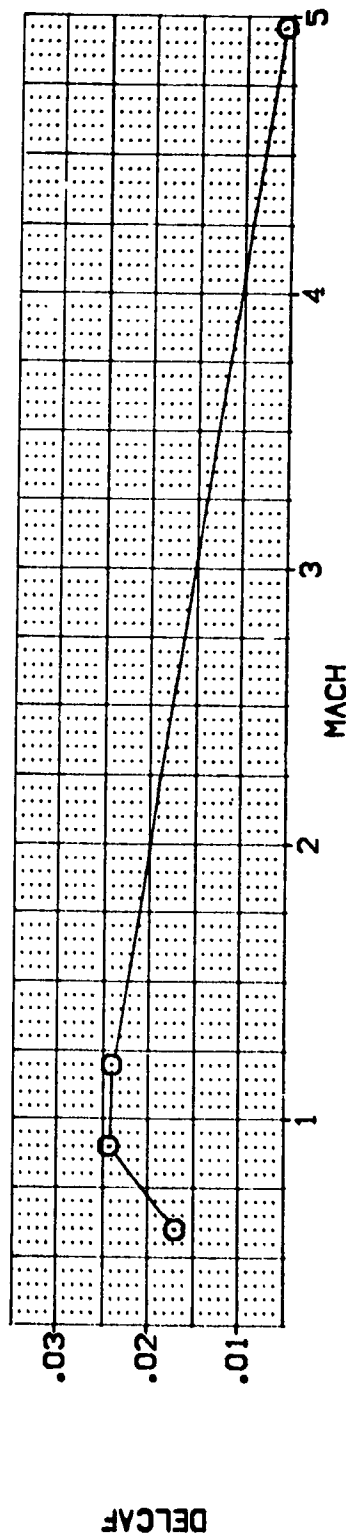
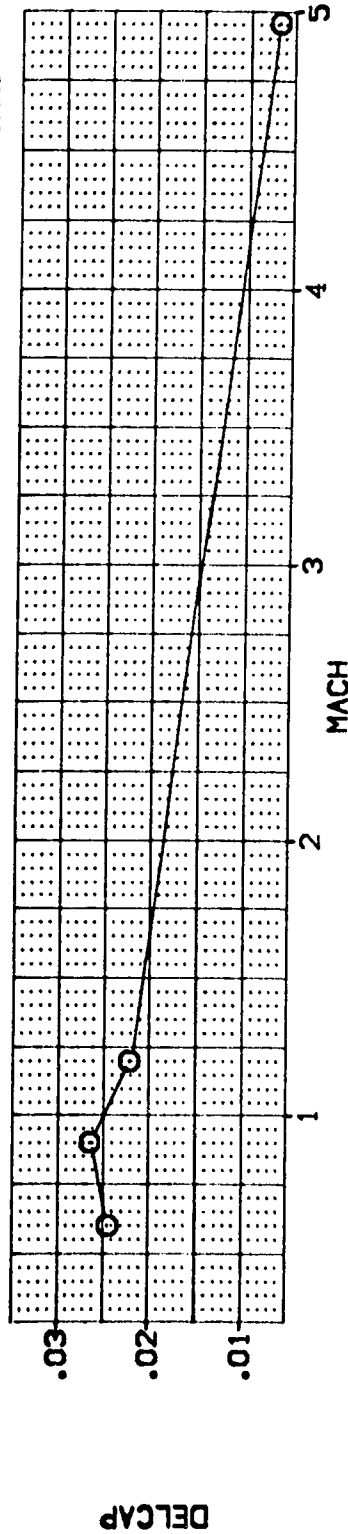
SPDBRK 85.000 RUDDER .000 BDFLAP -11.700 ELEVTR 4.160
 REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)
 (DJALPHA = 15.00)

DATA SET SYMBL. CONFIGURATION DESCRIPTION
(952A48) O H5TC 501(0A49) 0RB 34-0 (BDTH)(VE)(VR)

SPDBRK 85.000 RUDDER .000 BDFLAP -11.700 ELEVTR 4.180
REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 538.7000 IN.
VMRP 1081.3900 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(CEJALPHA = 20.00

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (N92046)

SYMBOL
○ □ ◇ △

ALPHA
.000
5.000
10.000
15.000
20.000

MACH
BDFLAP
AILRON
CNF1G

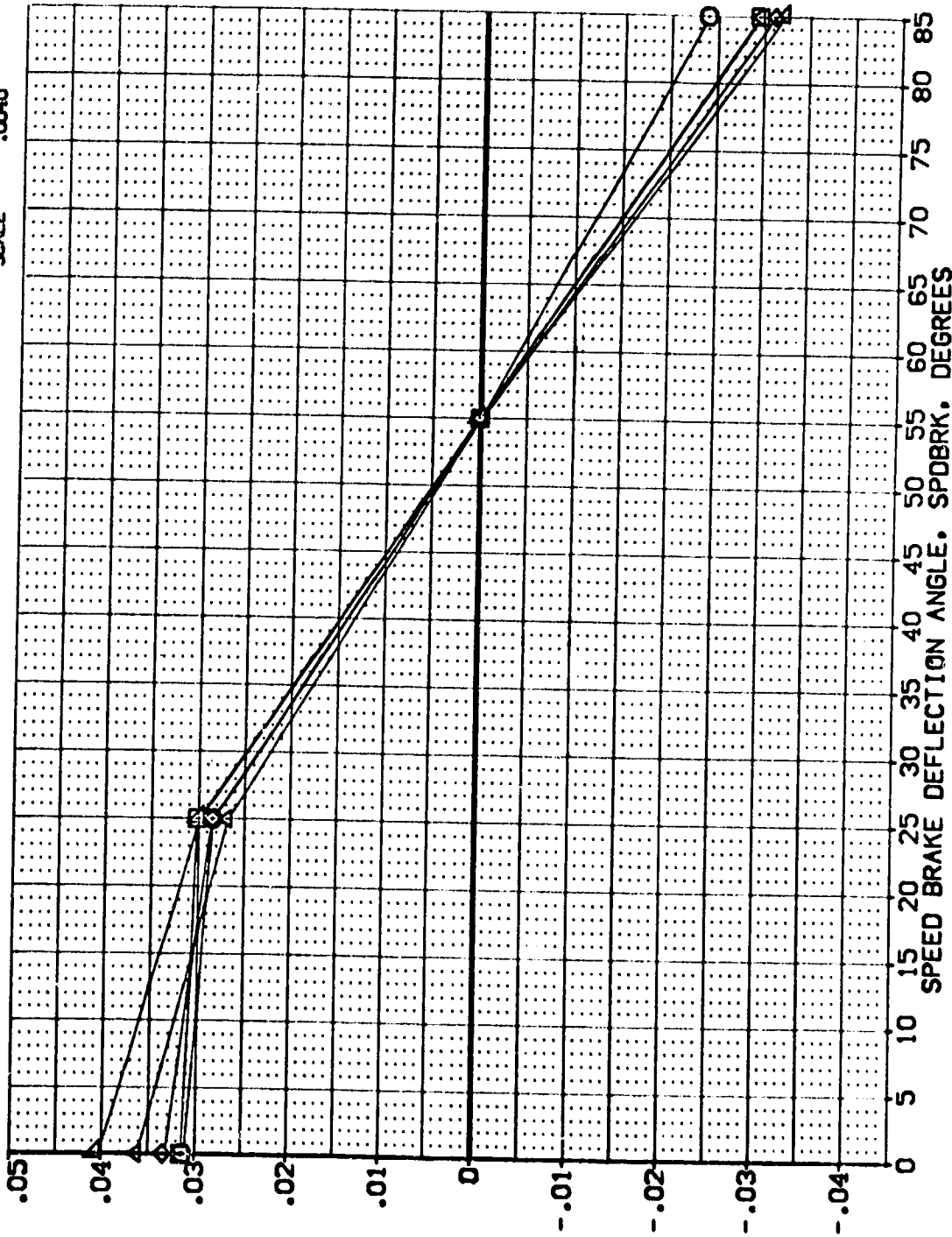
PARAMETRIC VALUES
.597 RUDDER
-11.700 ELEVTR
-.670 BETA
1.000

DATA SOURCE
.000 DATASET
4.160 N92046
.000 N92047
55.000

DATASET
N92047
N92048

SPDBRK
25.000
65.000

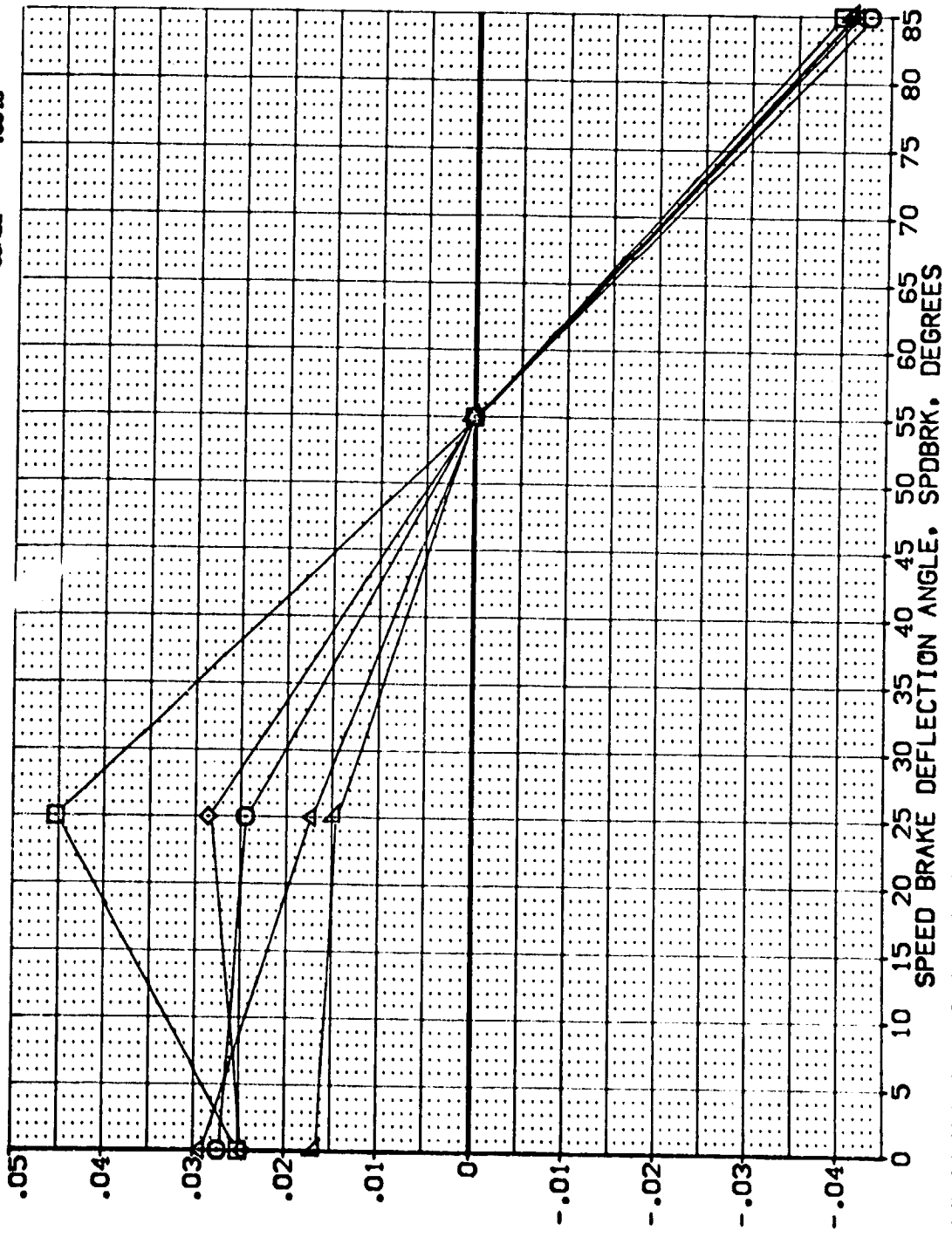
REFERENCE INFORMATION
SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 936.7000 IN.
XMRP 1081.3900 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (N92046)

ALPHA	MACH	PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
.000	.894	RUDDER	.000	DATASET	SPDBRK	SREF	2741.8000
5.000	-11.700	ELEVTR	4.160	NS2045	.000	LREF	481.6480
10.000	-.570	BETA	.000	NS2047	55.000	BREF	536.7000
15.000	1.000					XREF	1081.3500
20.000						YREF	.0000
						ZREF	.0000
						SCALE	.0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

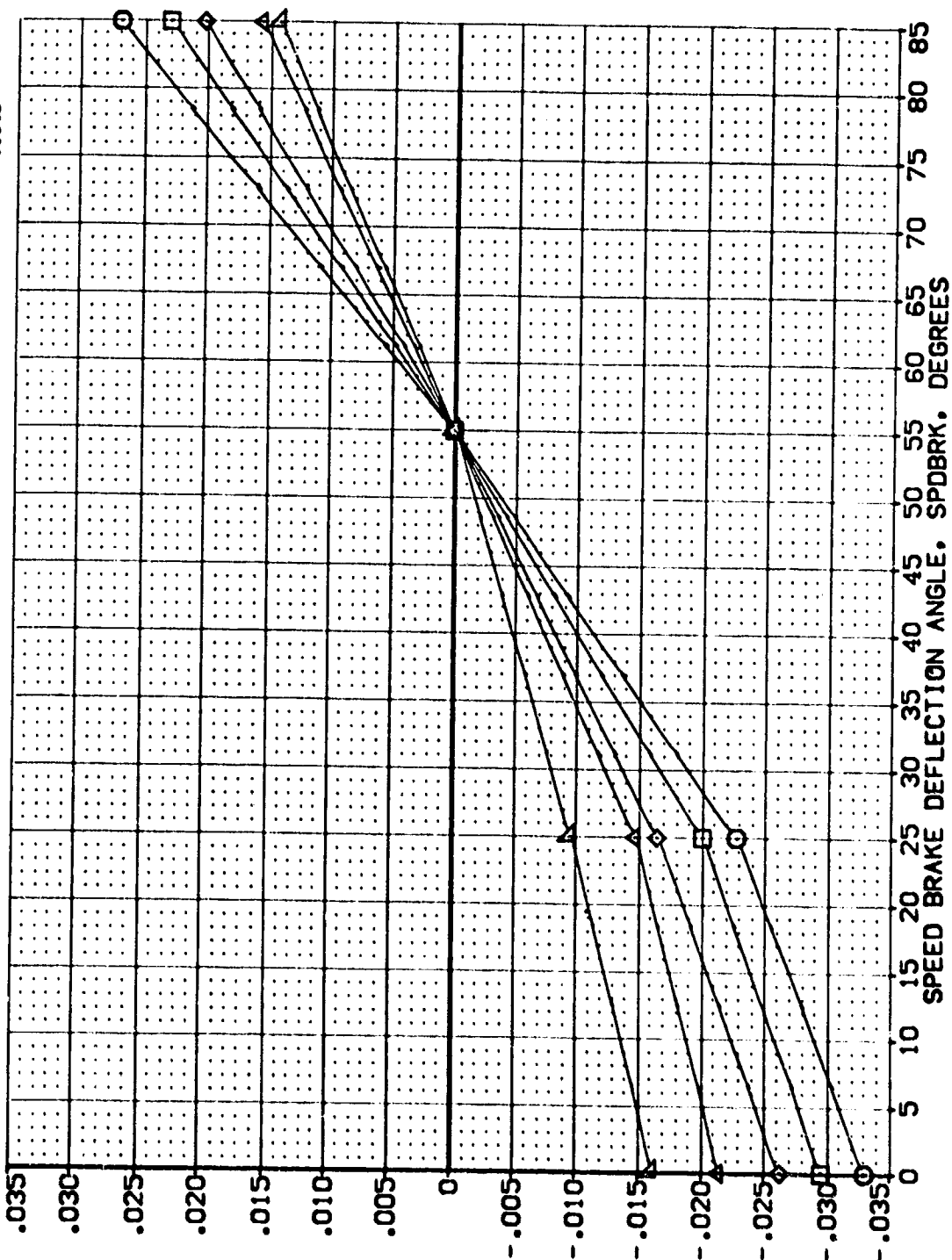
MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (N92046)

SYMBOL
 O
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PARAMETRIC VALUES
 MACH .000
 BDFLAP 5.000
 ALLRON 10.000
 CONF18 15.000
 20.000
 RUDDER .597
 ELEVTR -11.700
 BETA -.670
 1.000

DATA SOURCE
 SPDBRK .000
 DATASET .000
 N92046 4.160
 N92047 .000
 N92048 .000

REFERENCE INFORMATION
 SPDBRK 2741.8000
 LREF 481.6480
 BREF 936.7000
 XPRP 1081.3500
 YPRP .0000
 ZPRP .0000
 SCALE .0040

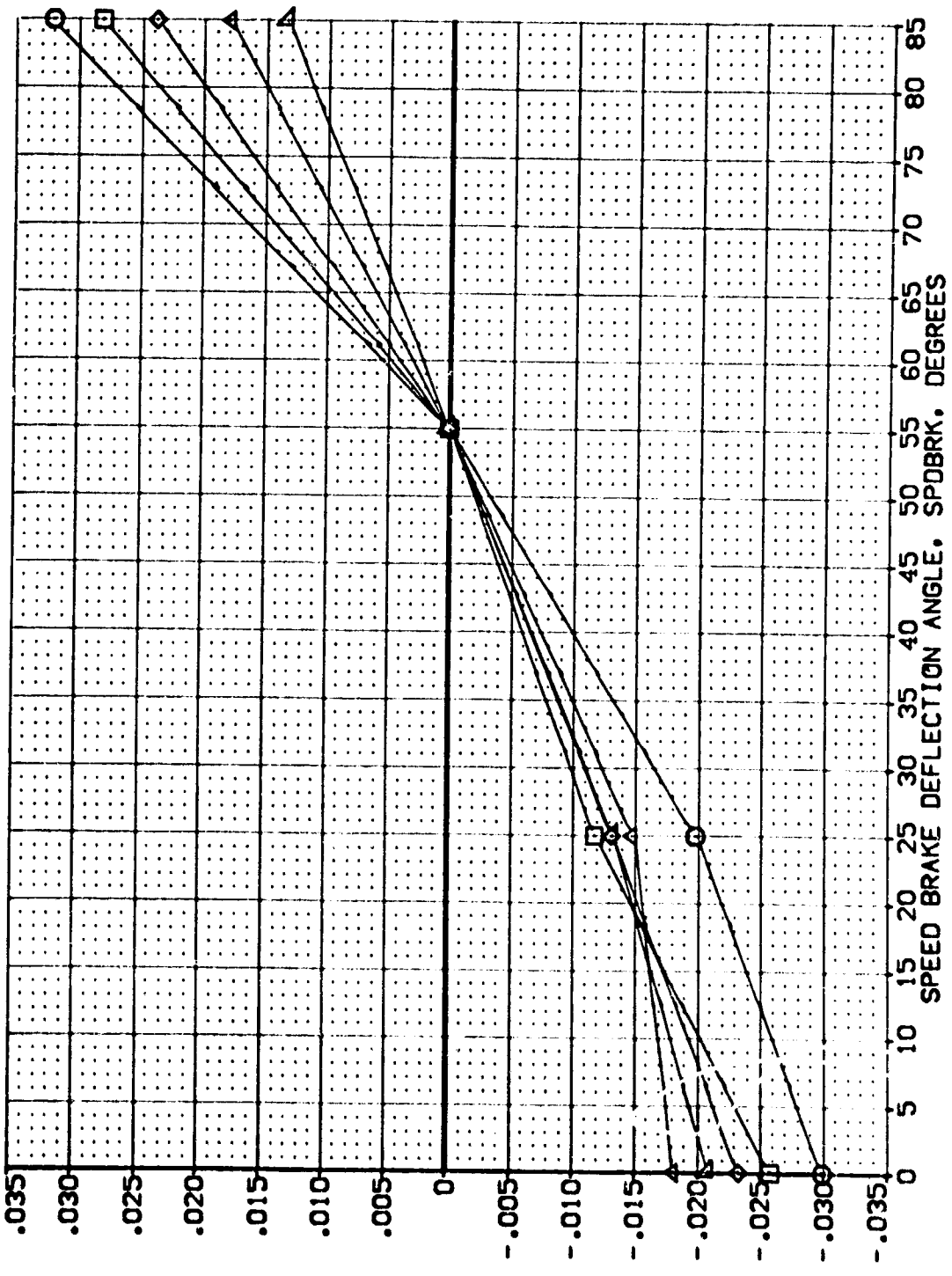


INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (N92046)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	SPDBRK	SPDBRK	SPDBRK	REFERENCE INFORMATION
○	.000	.854	RUDDER	.000	NS2046	.000	NS2047	NS2048	2741.8000 SQ. FT
□	5.000	-11.700	ELEVTR	4.160	NS2046	.000	NS2047	NS2048	481.6480 IN.
◇	10.000	-.670	BETA	.000	NS2046	95.000	NS2047	NS2048	536.7000 IN.
△	15.000	1.000							1081.3500 IN.
▽	20.000								.0000 IN.
									ZHPP .0000 IN.
									SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (N92046)

SYMBOL
 □
 ◇
 △
 ▲

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

MACH
 .587
 -11.700
 -6.670
 1.000

PARAMETRIC VALUES
 RUDDER
 ELEVTR
 BETA

.000
 4.160
 .000

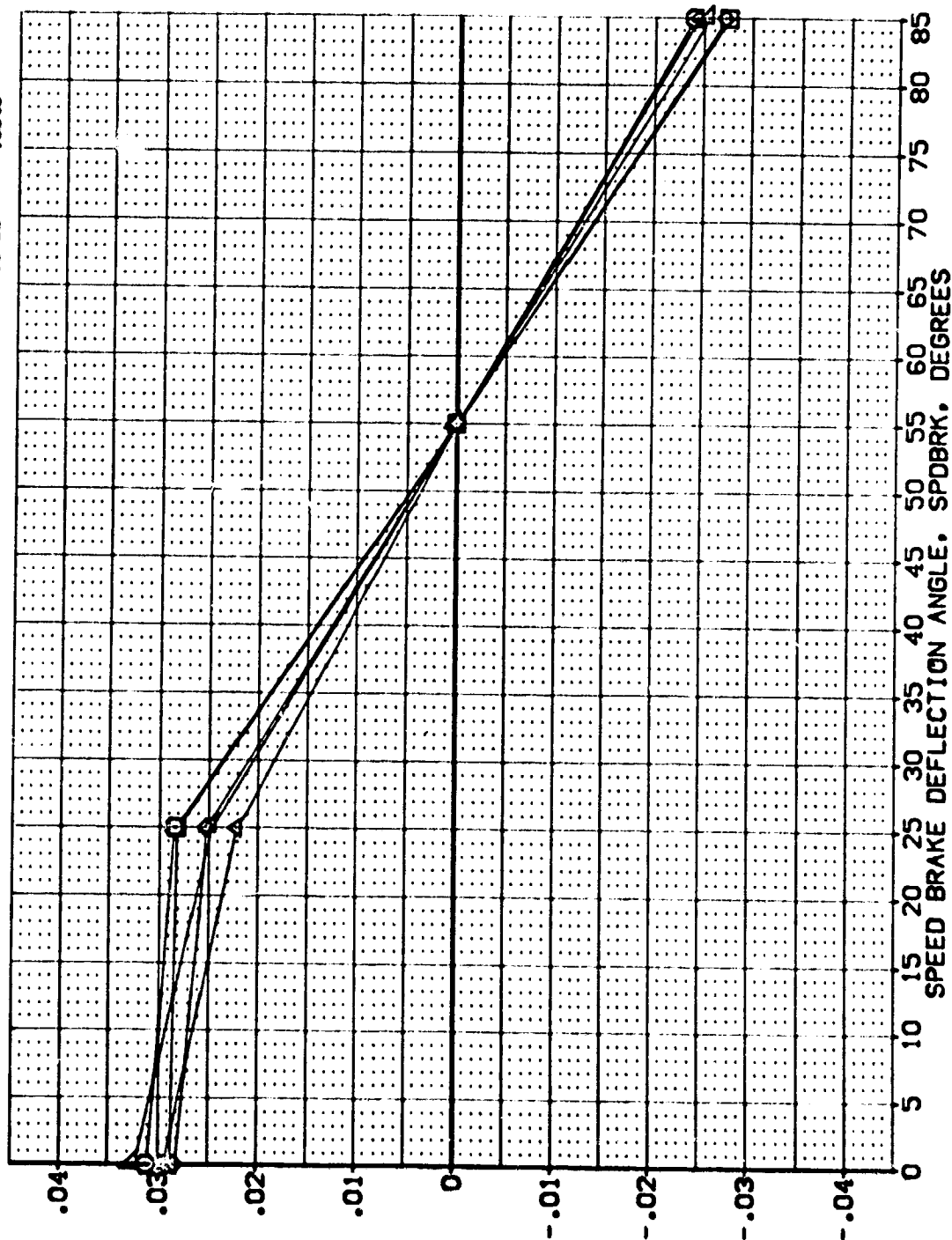
DATA SOURCE
 SPDBRK
 NS2045
 NS2047

DATASET
 SPDBRK
 NS2047
 NS2048

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 SPREF 936.7000
 XREF 1081.3500
 YREF .0000
 ZREF .0000
 SCALE .0040

SO: FT
 IN:
 IN:
 IN:
 IN:

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) 0NB 34-0 (BCFM)(WE)(VR) (N92046)

SYMBOL
 ○
 □
 ◇
 ▲
 ▼

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

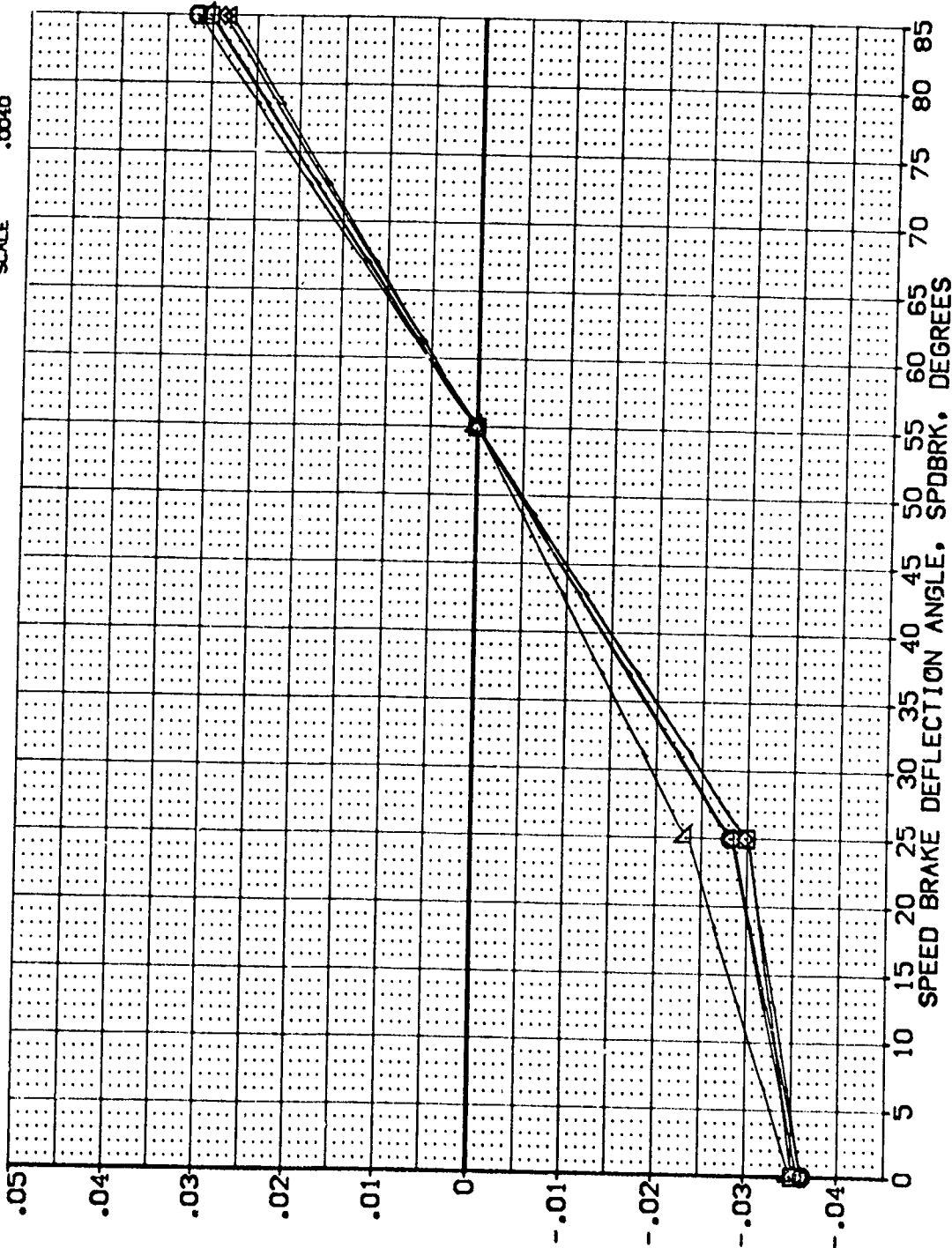
PARAMETRIC VALUES
 .597 RUDDER
 -11.700 ELEVTR
 -.670 BETA
 1.000

DATA SOURCE
 SPDBRK
 .000
 4.160
 .000

DATASET
 N92046
 N92047
 N92048

SPDBRK
 25.000
 65.000

REFERENCE INFORMATION
 Z741.8000 SO. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

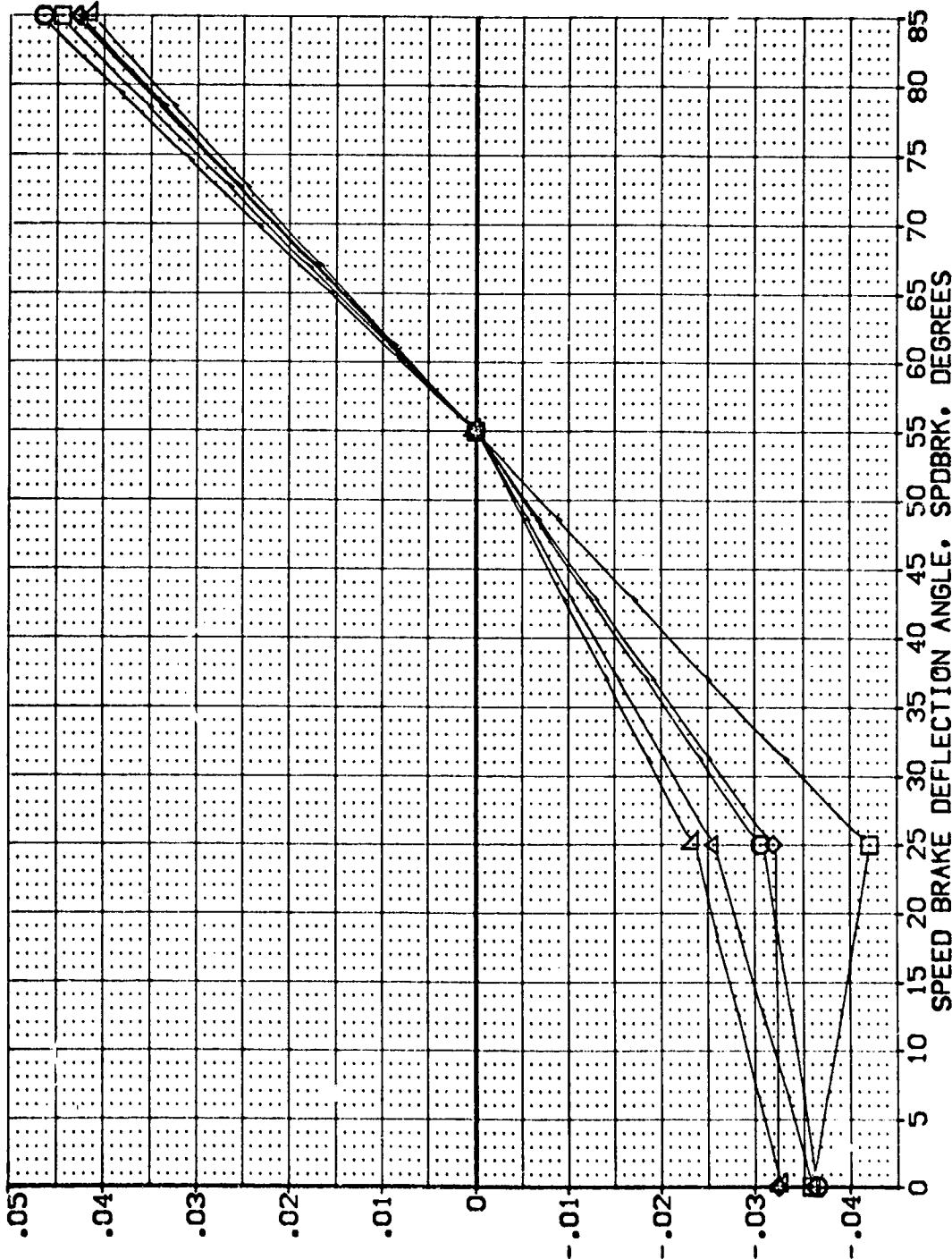


INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCm

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (N92046)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	.000	.894	RUDDER	SPDBRK	2741.9000 SQ. FT
□	5.000	-11.700	ELEVTR	N92046	481.6480 IN.
◇	10.000	-1.670	BETA	N92047	536.7000 IN.
△	15.000	1.000		N92048	1081.3500 IN.
	20.000			YMRP	.0000 IN.
				ZMRP	.0000 IN.
				SCALE	.0040



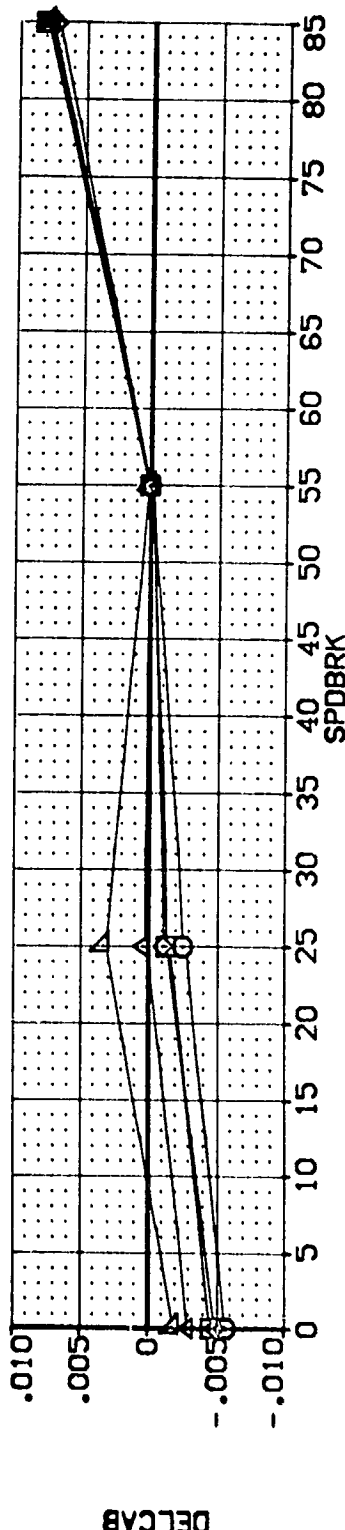
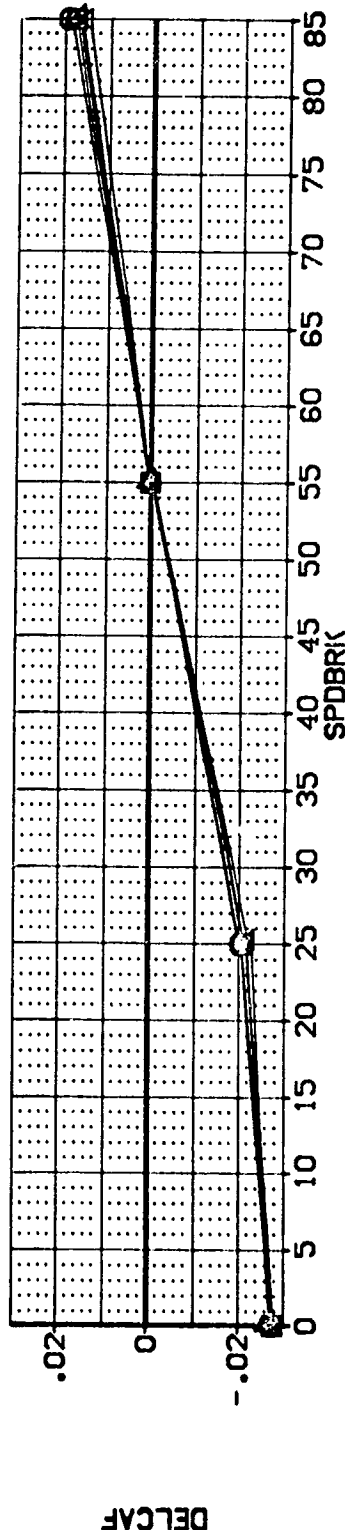
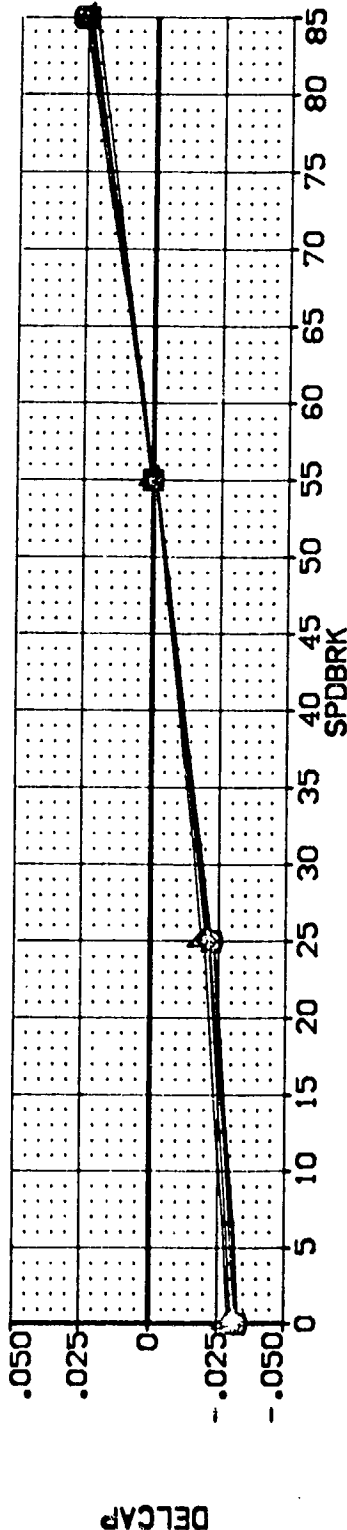
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

SYMBOL
 ○
 □
 ◇
 △
 ▽

PARAMETRIC VALUES
 MACH .000
 BOFLAP 5.000
 AILRON 10.000
 CONF16 15.000
 20.000
 RUDDER .597
 ELEVTR -11.700
 BETA -.670
 1.000

DATA SOURCE
 SPDBRK .000
 DATASET NS2046
 NS2047
 NS2048

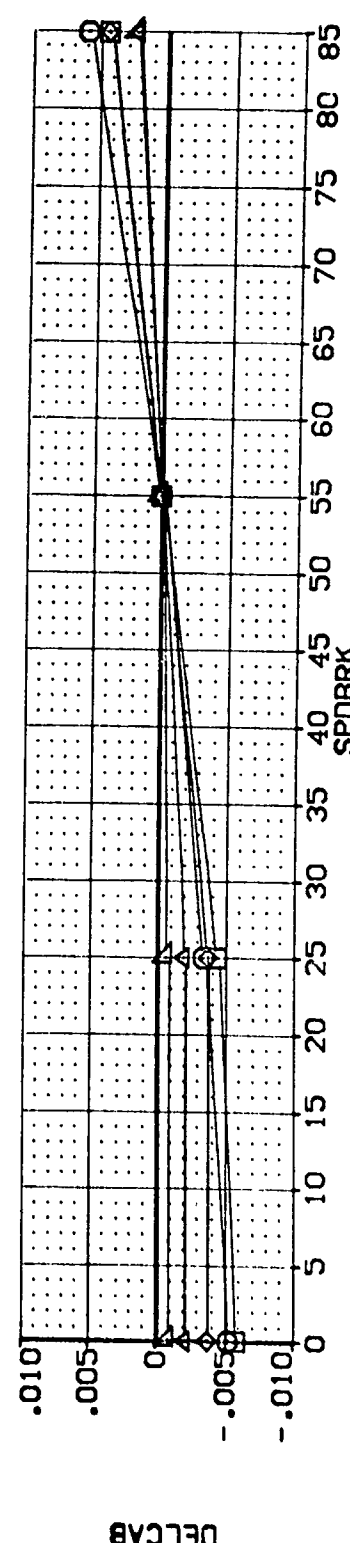
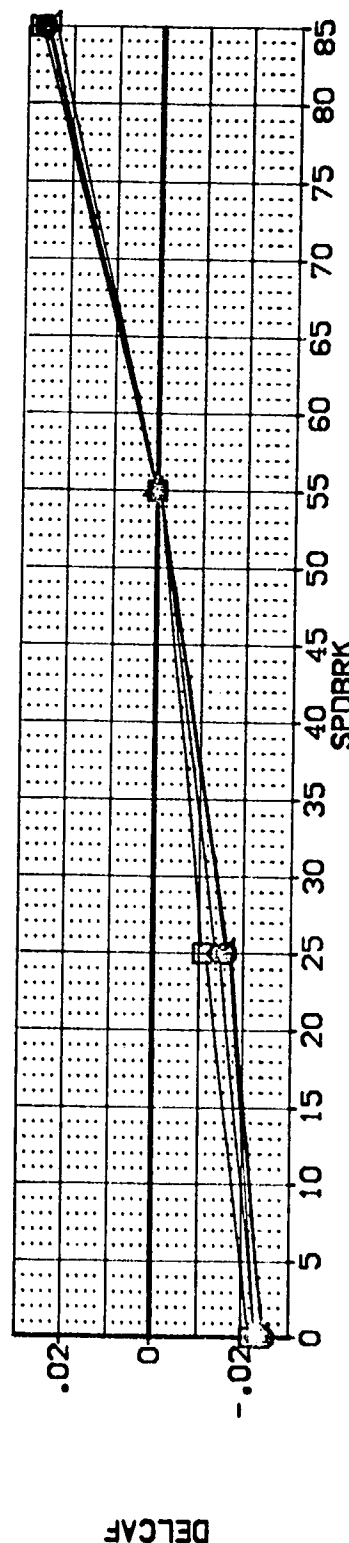
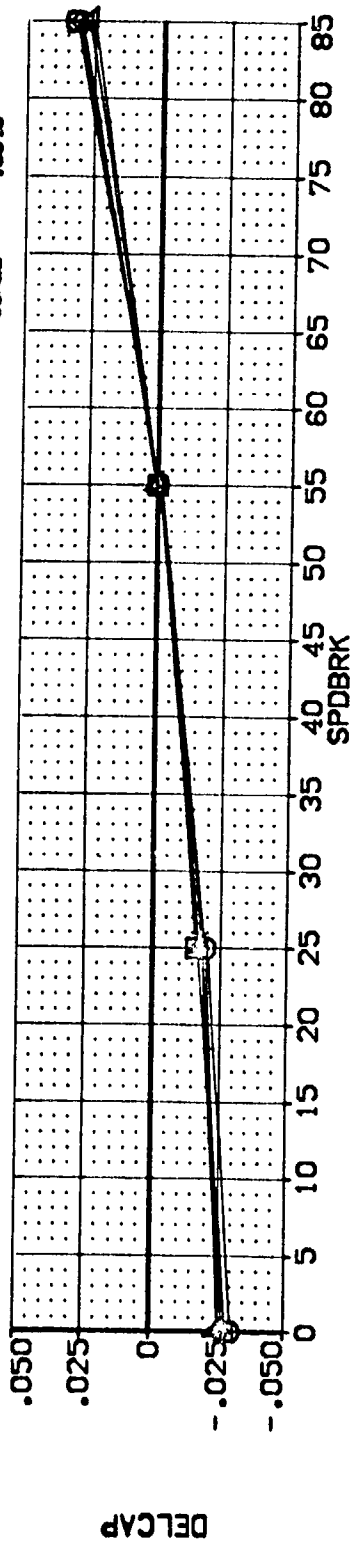
REFERENCE INFORMATION
 SREF 7741.8000 SQ. FT
 LREF .81.6480 IN.
 BREF 935.7000 IN.
 XMRP 1081.3907 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (N92046)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	.000	SPDBRK	SREF	50. FT
.000	.004	.000	SPDBRK	2741.8000	IN.
5.000	BDFLAP	4.160	SPDBRK	481.6480	IN.
10.000	ELEVTR	.000	SPDBRK	536.7000	IN.
15.000	BETA	.000	SPDBRK	1081.3500	IN.
20.000	CONF16	1.000	SPDBRK	0.0000	IN.
			SCALE	.0040	



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (N9X111)

Symbol ○ □ ◇ △ ▴

ALPHA
5.000
10.000
15.000
20.000

**HACH
BDFLAP
A ILRON
CONFIG**

PARAMETRIC VALUES	
598	RIDDER
16.300	ELEVTR
-.670	BETA
1.000	

DATA \$0			
SPQBRK		DATASET	
25.000		NSX111	.160
85.000		NS2112	.000

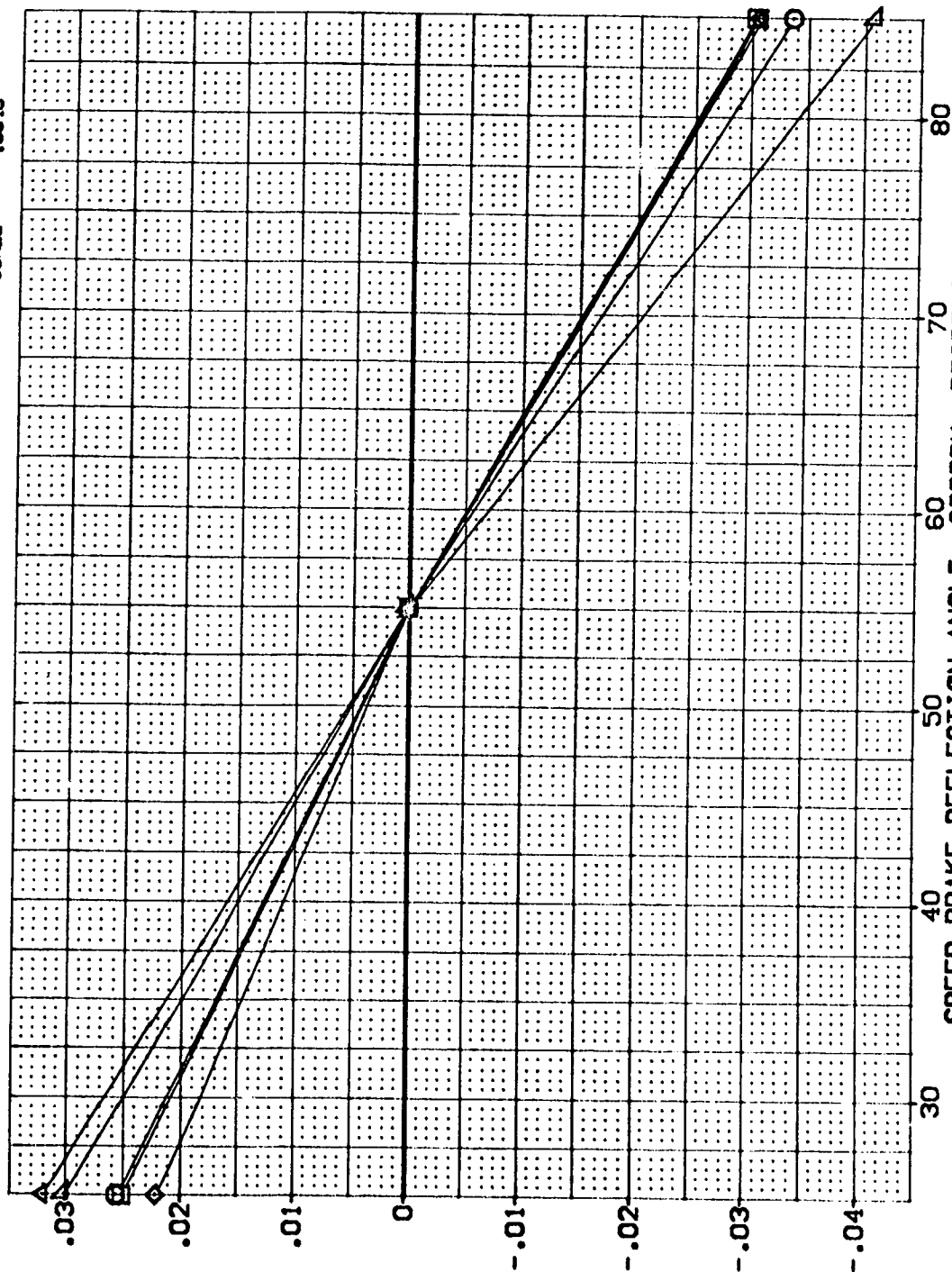
DATA SOURCE	
SPOBRK	
25.000	
85.000	

DATA SET
NR 81111

XEROX

SCALE
ZMRP
YMRP
XMRP
BREF
LREF
SREF

REFERENCE INFORMATION	
	SQ. FT
2741	8000
481	6480
936	7000
1081	3500
	0000
	0000
	0000



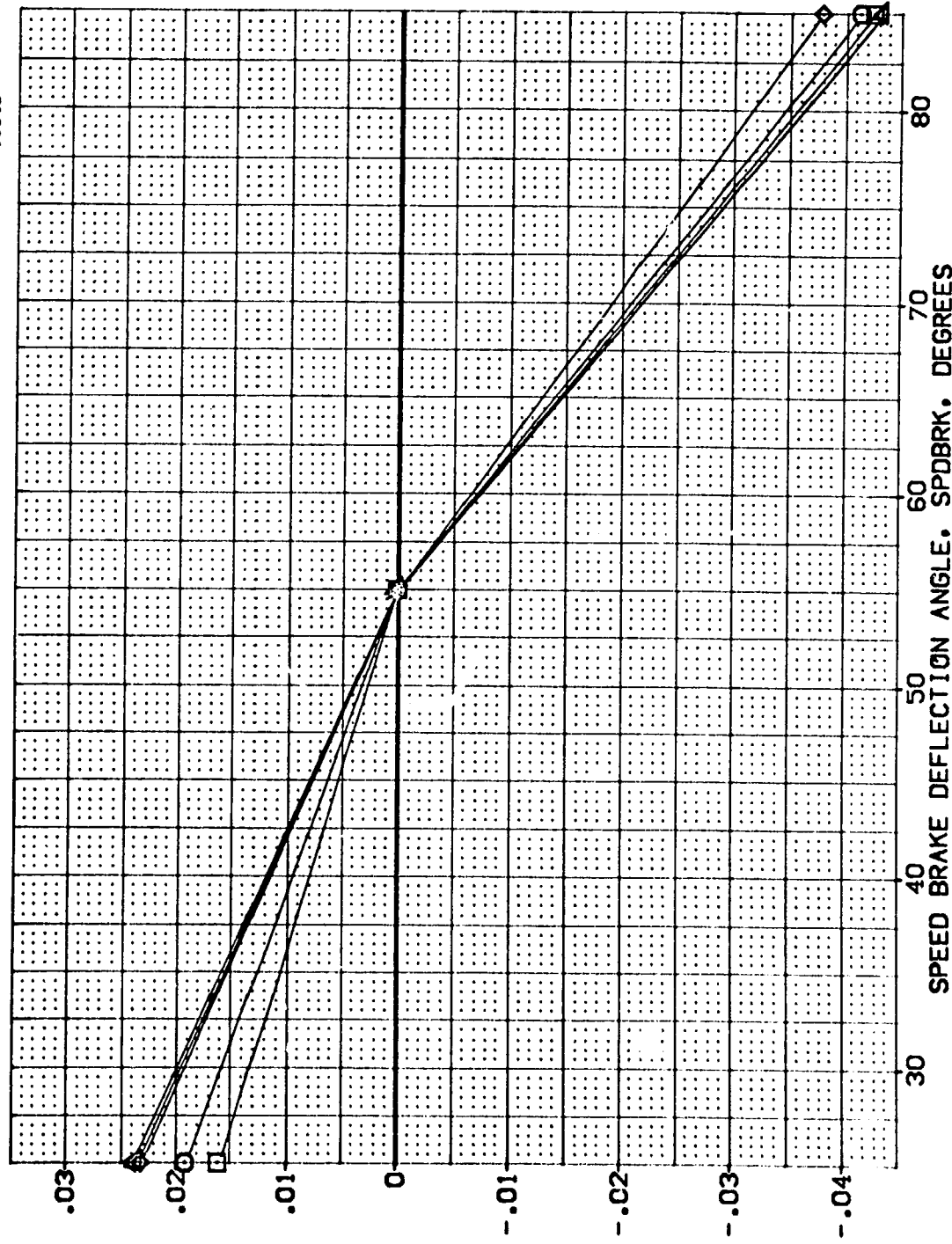
INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA

SPEED BRAKE DEFLECTION ANGLE. SPDBRK. DEGREES

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM) (VE)(VR) (N9X111)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
0.000	MACH	SPDBRK	SPDBRK
5.000	BDFLAP	NSA111	2741.8000
10.000	AILRON	NSX111	481.6480
15.000	CONF1G	NS2112	936.7000
20.000			1081.3500
			1740.0000
			2440.0000
			SCALE
			.0040



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

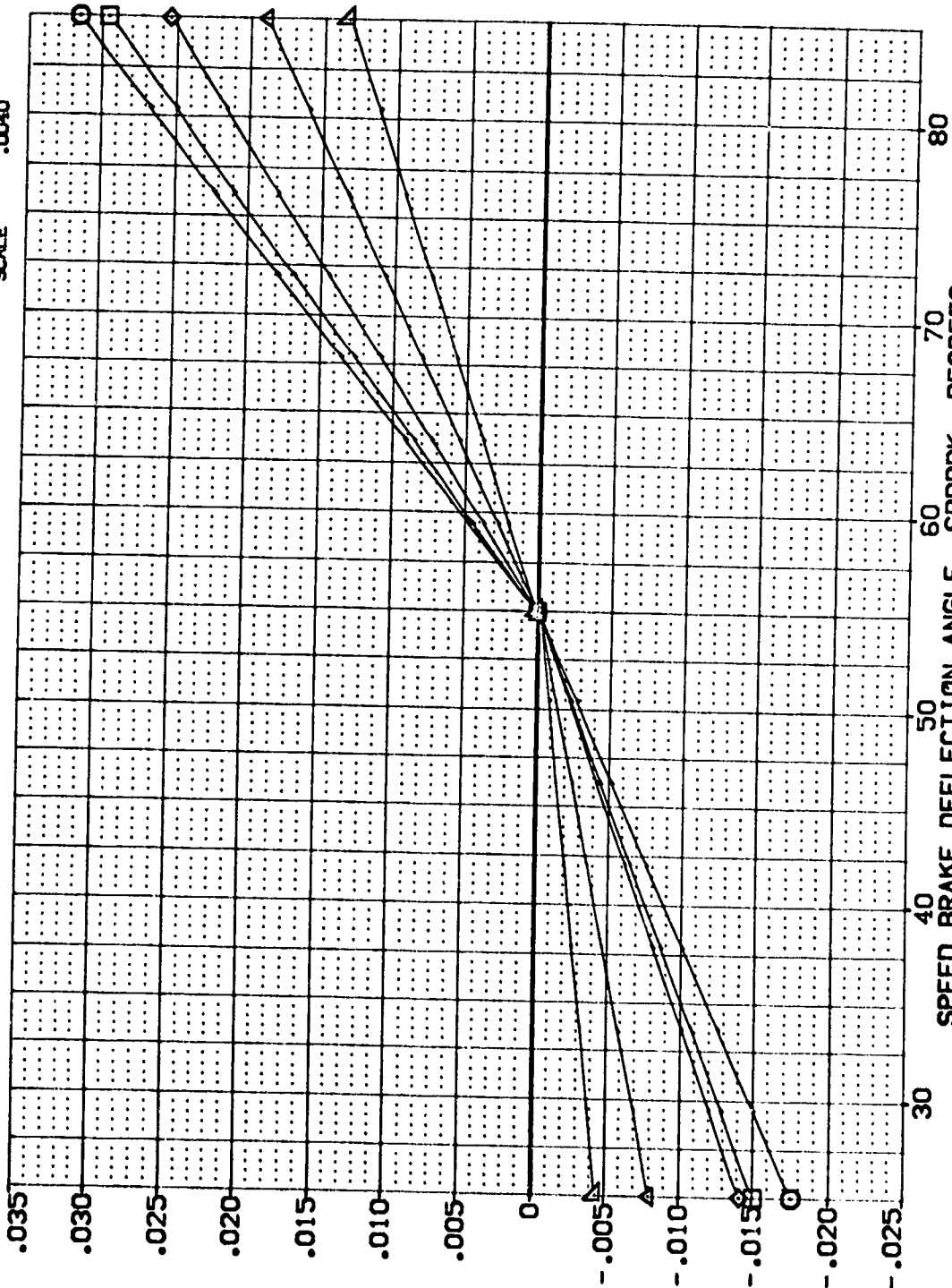
MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (N9X111)

SYMBOL
 ▽
 ◊
 □
 ○

PARAMETRIC VALUES
 ALPHA .000
 MACH 5.000
 BOFLAP 10.000
 AILRON 15.000
 CONF16 20.000
 RUDDER .598
 ELEVTR 16.300
 BETA -.570
 1.000

DATA SOURCE
 SPDBRK .000
 DATASET 4.160
 NSX111 .000
 NS2112 .000

REFERENCE INFORMATION
 SPDBRK 2741.8000
 LREF 481.6480
 BREF 936.7000
 XPRP 1081.3900
 YPRP .0000
 ZPRP .0000
 SCALE .0040

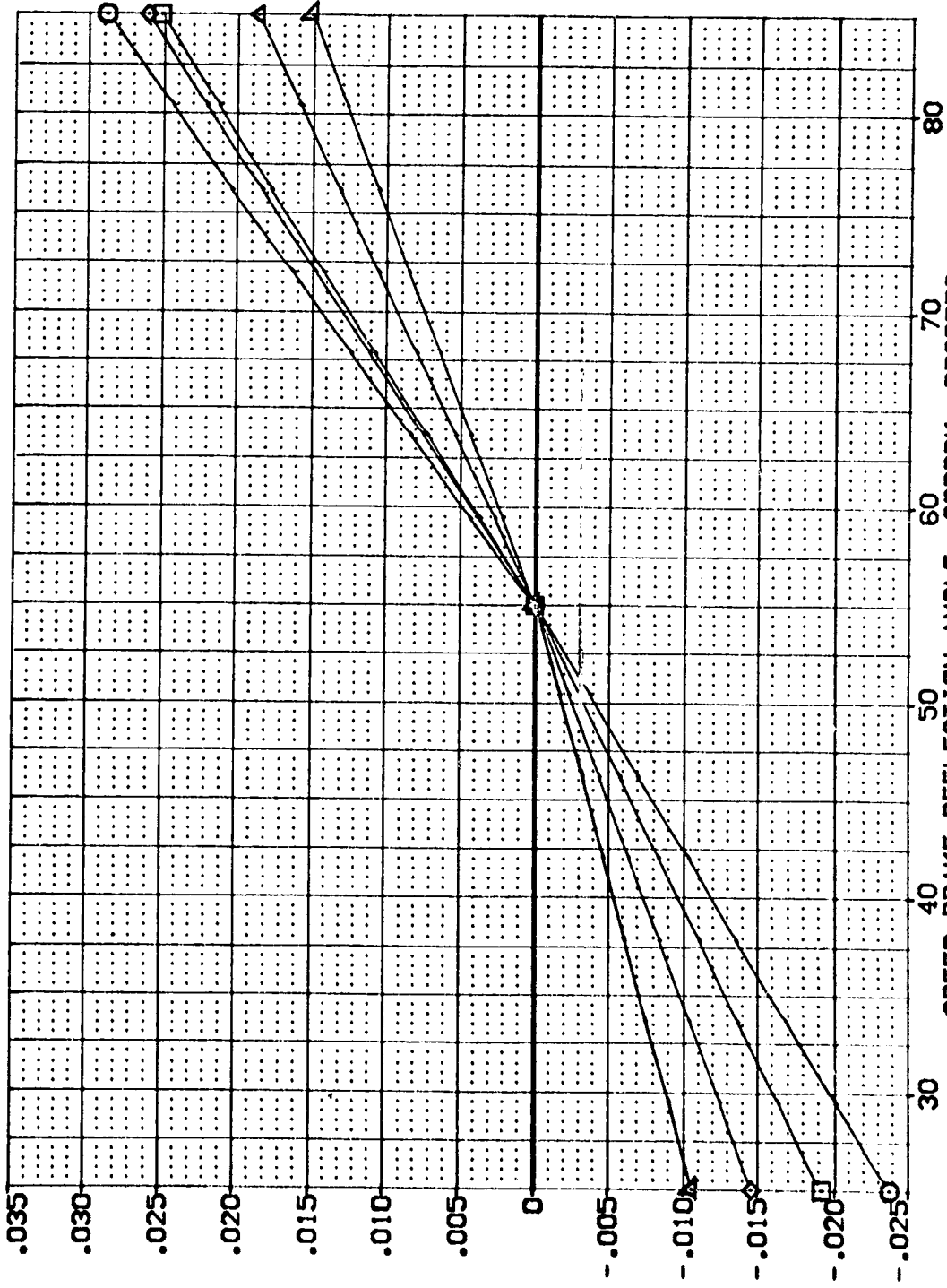


INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

SPEED BRAKE DEFLECTION ANGLE, SPDBRK, DEGREES
 SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (N9X111)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	.000 DATASET	SPDBRK	DATASET	SPDBRK	SREF	REFERENCE INFORMATION
○	.000		.855 RUDDER	4.160 N9X111	25.000	N9A111	55.000	2741.8000	SO. FT
□	5.000	BDFLAP	16.300 ELEVTR	.000 N92112	85.000			481.6480	IN.
◇	10.000	A11JRN	-.670 BETA					536.7000	IN.
△	15.000	CONF16	1.000					1081.3900	IN.
▽	20.000							.0000	IN.
								.0040	SCALE

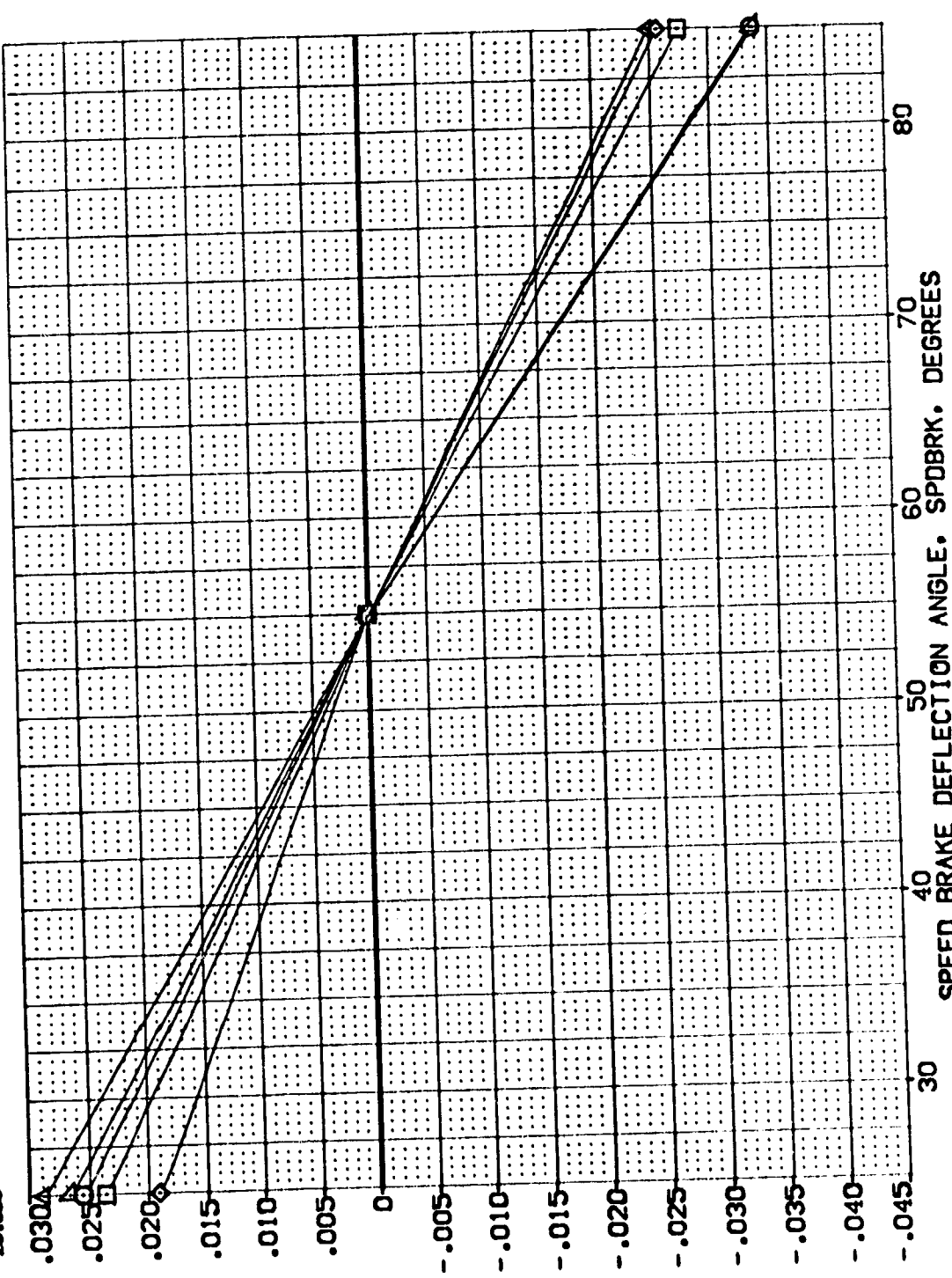


INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

SPEED BRAKE DEFLECTION ANGLE, SPDBRK, DEGREES
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (N9X111)

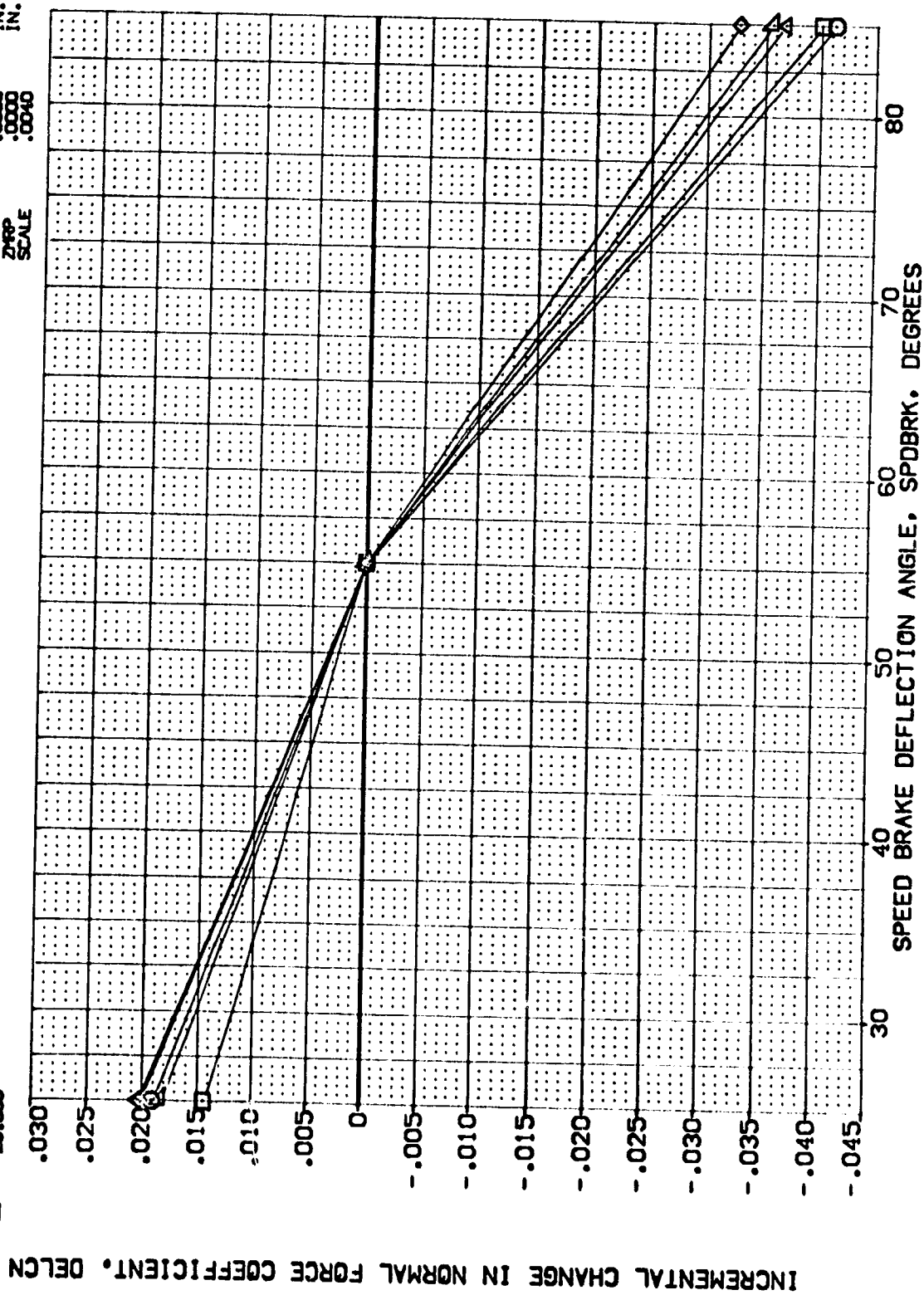
PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	.000	SPDBRK	SPREF	SD, FT
.000	.598	.000	55.000	LREF	IN:
5.000	16.300	4.160	NSA111	BREF	IN:
10.000	-1.670	.000	NS2112	XMPP	IN:
15.000	1.000			YMPP	IN:
20.000				ZMPP	IN:
				SCALE	.0049



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (N9X111)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
.000	.895 RUDDER	SPDBRK	SP. FT
5.000	16.300 ELEVTR	NSA111	2741.8000
10.000	-6.7 BETA	NSX111	481.6480
15.000	1.003	NS2112	936.7000
20.000		SPDBRK	1081.2000
		NSA111	.0000
		NSX111	.0000
		NS2112	.0040
		SCALE	



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR) (N9X111)

[illegible]

ALPHA
5.000
10.000
15.000
20.000

PARAMETRIC VALUES	
MACH	.599 RUDDER
BOFLAP	16.300 ELEVTR
AIRLEN	-.670 BETA
CONFIG	1.000

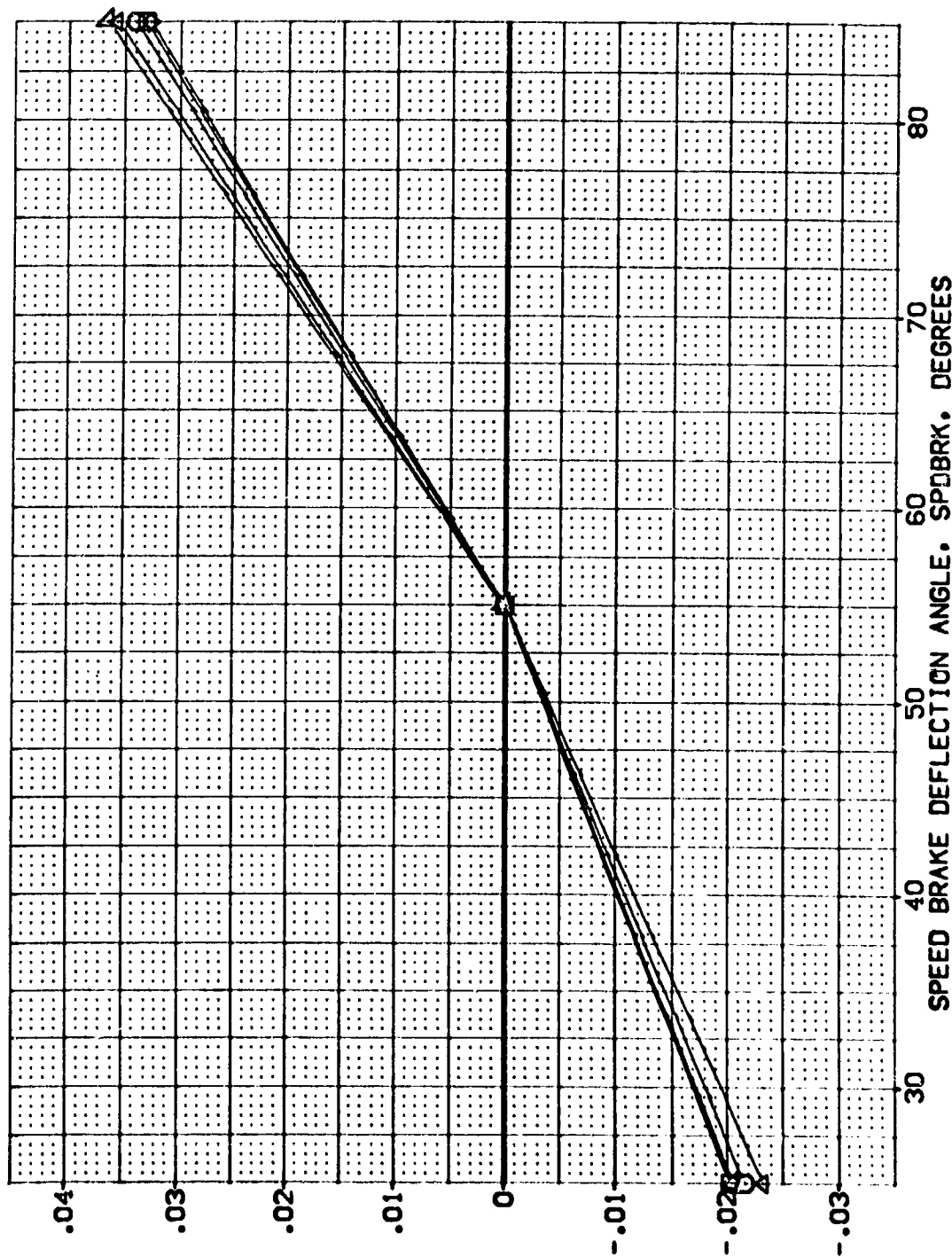
	DATA SOURCE
.000	SPDRBK
4.160	25.000
.000	85.000

```

      DATASET  NS4111
      SPOBAX   55.000
      SREF     LREF  BREF  XTRP  YTRP  ZTRP  SCALE

```

REFERENCE INFORMATION		SG.	FT
2741	8000	IN.	
481	6480	IN.	
536	7000	IN.	
1081	3500	IN.	
	.0000	IN.	
	.0000	IN.	
	.0040	IN.	

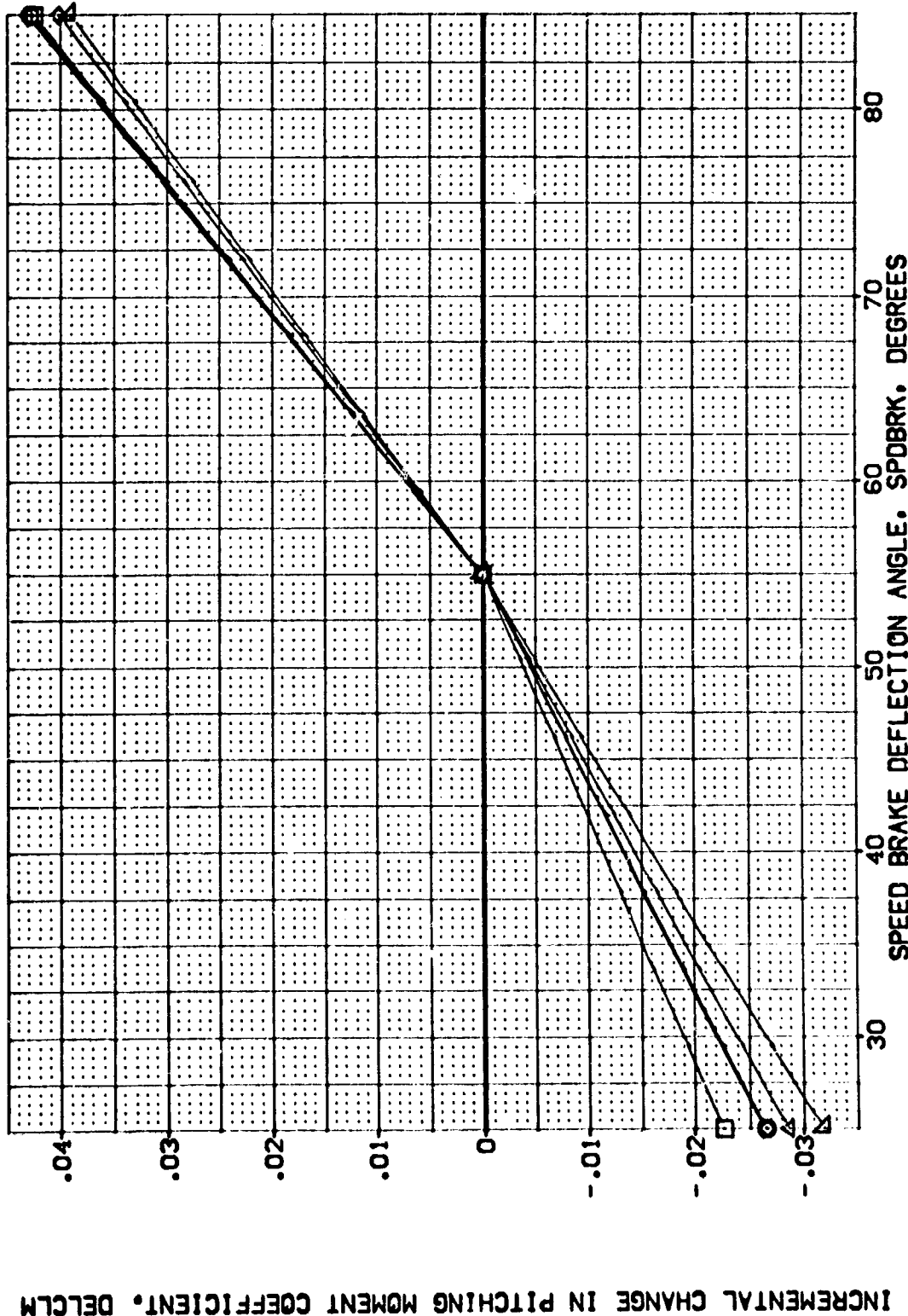


40 50 60 70
SPEED BRAKE DEFLECTION ANGLE. SPDBRK. DEGREES

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(111X6N)

STREEL	ALPHA	PHARMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION	
		MACH	RUDDER	ELEVTR	SPDRBK	DATASET	SPDRBK	REF	IN.
○	.000		.695		.000	NSX111	55.000	481.5480	IN.
□	5.000	BDPLAP	16.300		4.160	NSX111	55.000	536.7000	IN.
◇	10.000	AILRON	-.570	BETA	.000	NSZ112	1081.2500	1081.2500	IN.
△	15.000	CONF16	1.000				1744P	.0000	IN.
▽	20.000						2744P	.0000	IN.
							SCALE	.0040	



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM) (WE)(VR)

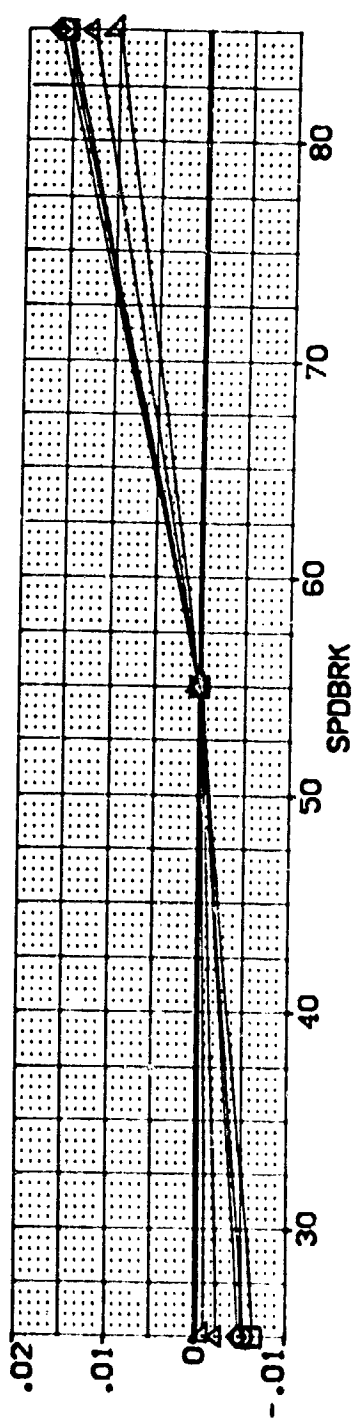
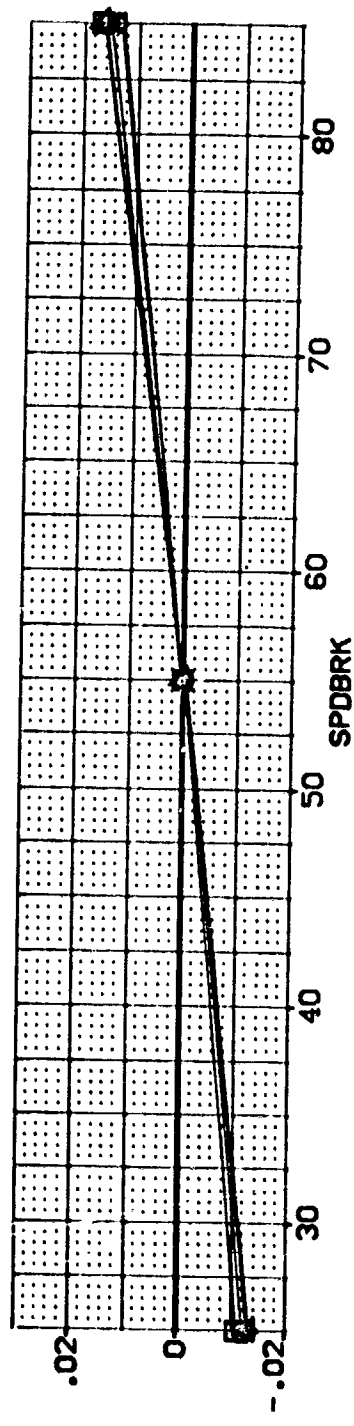
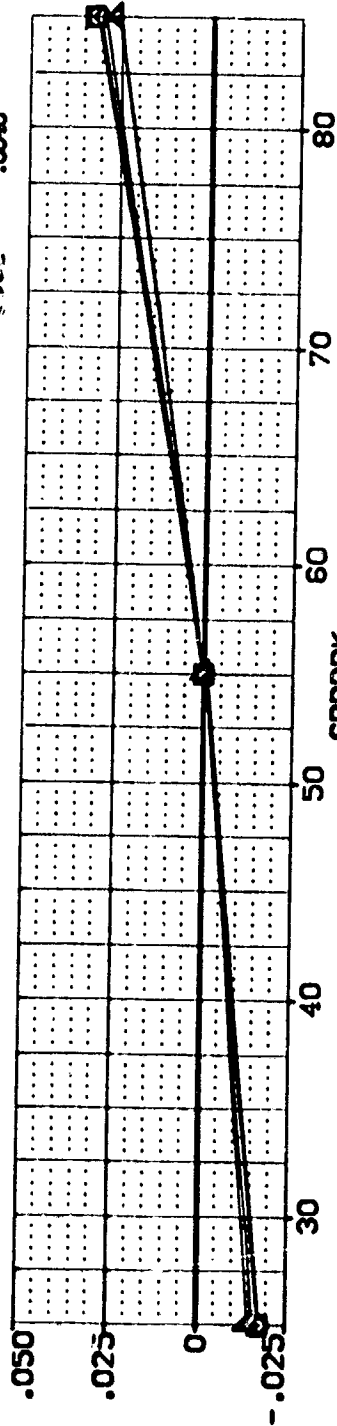
(N9X111)

SYMBOL
 ▽
 ◊
 □
 ○

PARAMETRIC VALUES
 MACH .538
 RUDER 16.300
 ELEVTR -.670
 BETA 1.000

DATA SOURCE
 .000 DATASET SPDBRK
 4.160 N9X111 25.000
 .000 N02112 85.000

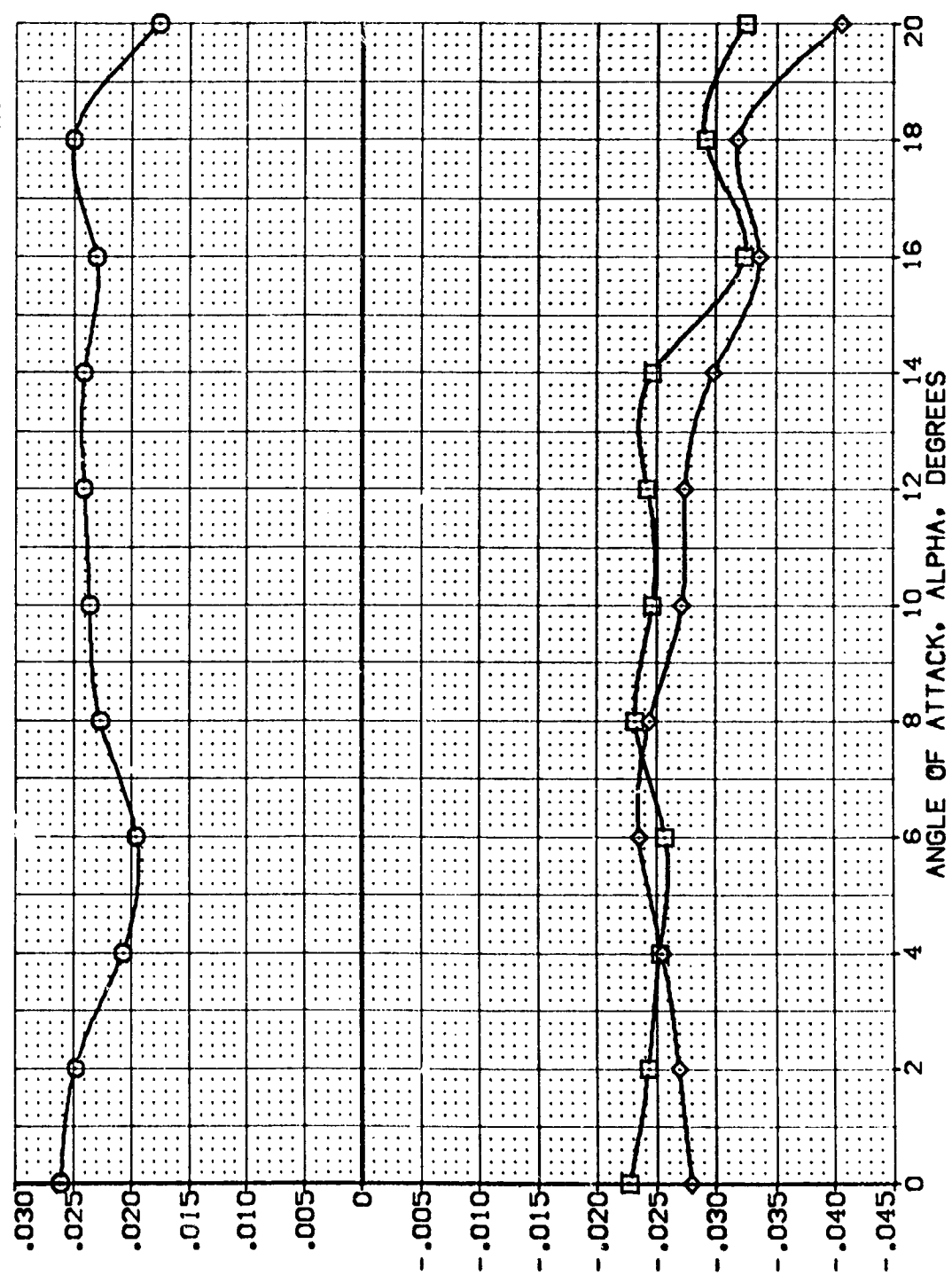
REFERENCE INFORMATION
 SREF 2741.8000 SO. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {P52046} MSFC 591(CA49) 078 34-0 (BCFM)(VE)(VR)
 {P52049} MSFC 591(CA49) 078 34-0 (BCFM)(VE)(VR)
 {P52112} MSFC 591(CA49) 078 34-0 (BCFM)(VE)(VR)

SPDBRK RUDDER BOFLAP ELEVTR REFERENCE INFORMATION
 .000 .000 -11.700 4.160 SREF 2741.8000 SQ. FT
 .000 .000 -11.700 4.160 LREF 481.6480 IN.
 .000 .000 16.300 4.160 BREF 936.7000 IN.
 XPRP 1081.3800 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040

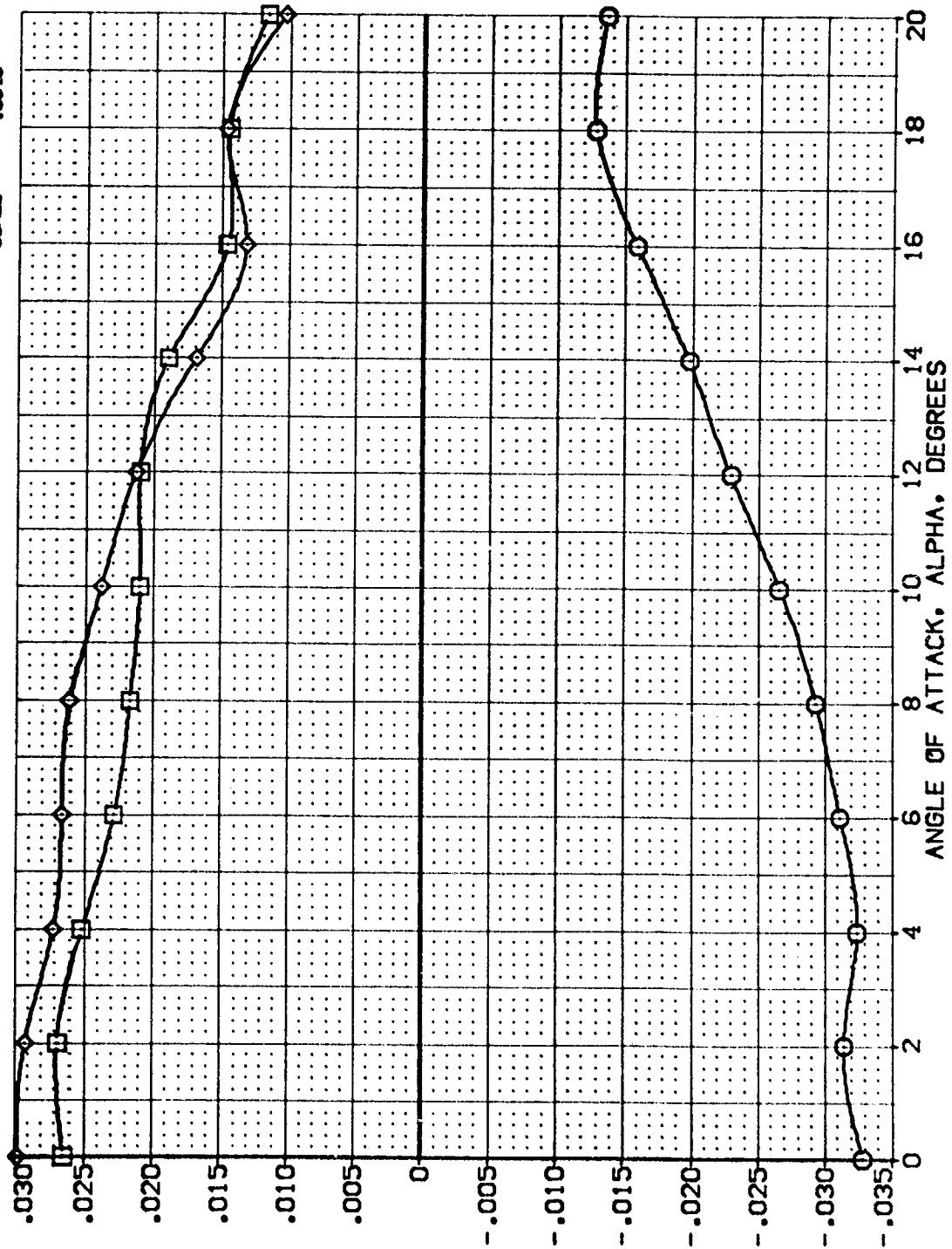


SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = 1.20




DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION FT

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SPDBRK	RUDDER	BDFLAP	ELEVTR	SREF	LREF	BREF	YPRP	ZPRP	SCALE
{PS2048}	MSFC 581(0A49) 0RB 3A-0 (BCFH)(VE)(VR)	.000	.000	-11.700	4.160	2741.8000	481.6480	936.7000	1081.3900	.0000	.0040
{PS2048}	MSFC 581(0A49) 0RB 3A-0 (BCFH)(VE)(VR)	85.000	.000	-11.700	4.160	2741.8000	481.6480	936.7000	1081.3900	.0000	.0040
{PS2112}	MSFC 581(0A49) 0RB 3A-0 (BCFH)(VE)(VR)	85.000	.000	16.300	4.160	2741.8000	481.6480	936.7000	1081.3900	.0000	.0040

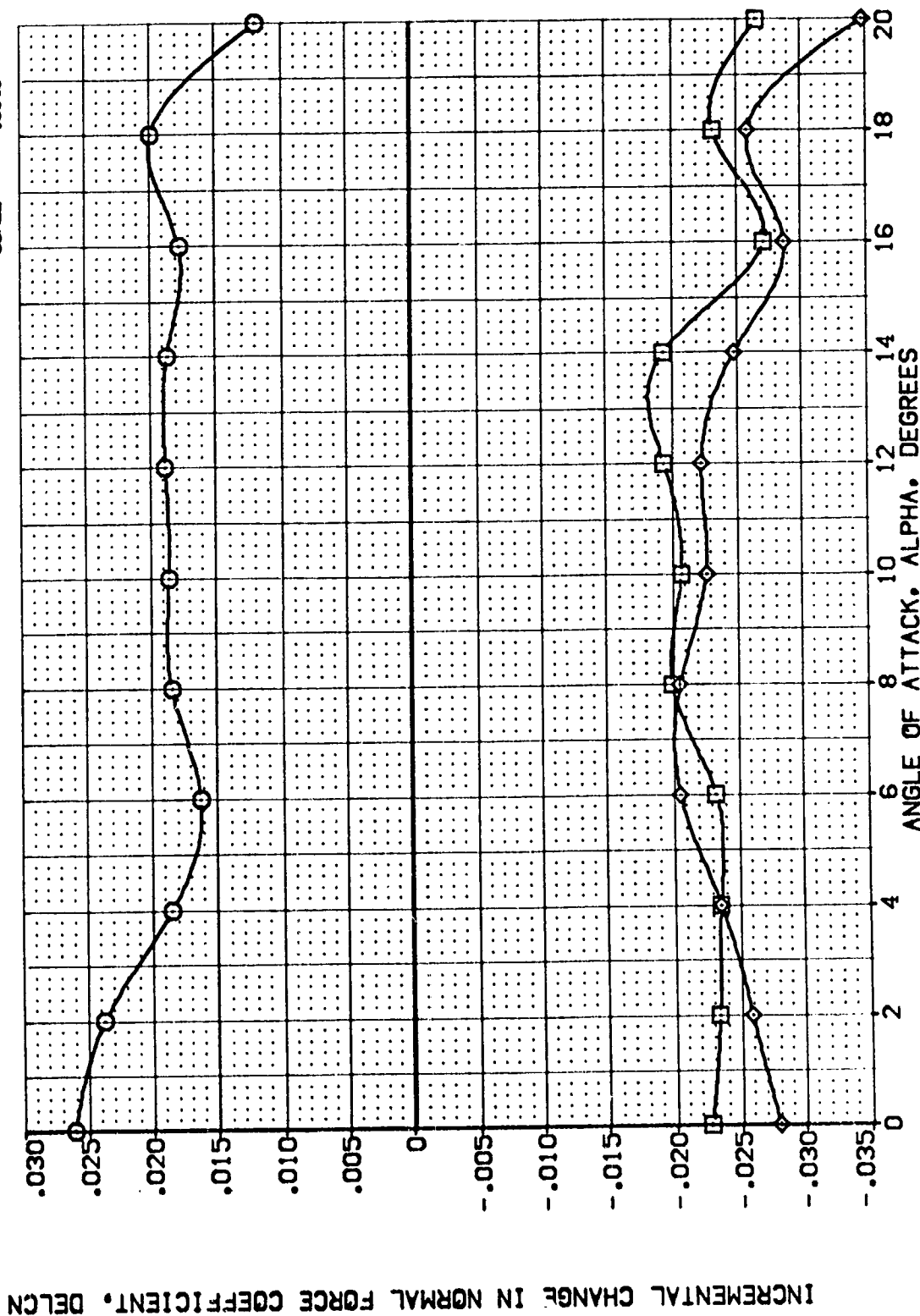


SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = 1.20

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION:  REFERENCE INFORMATION: 

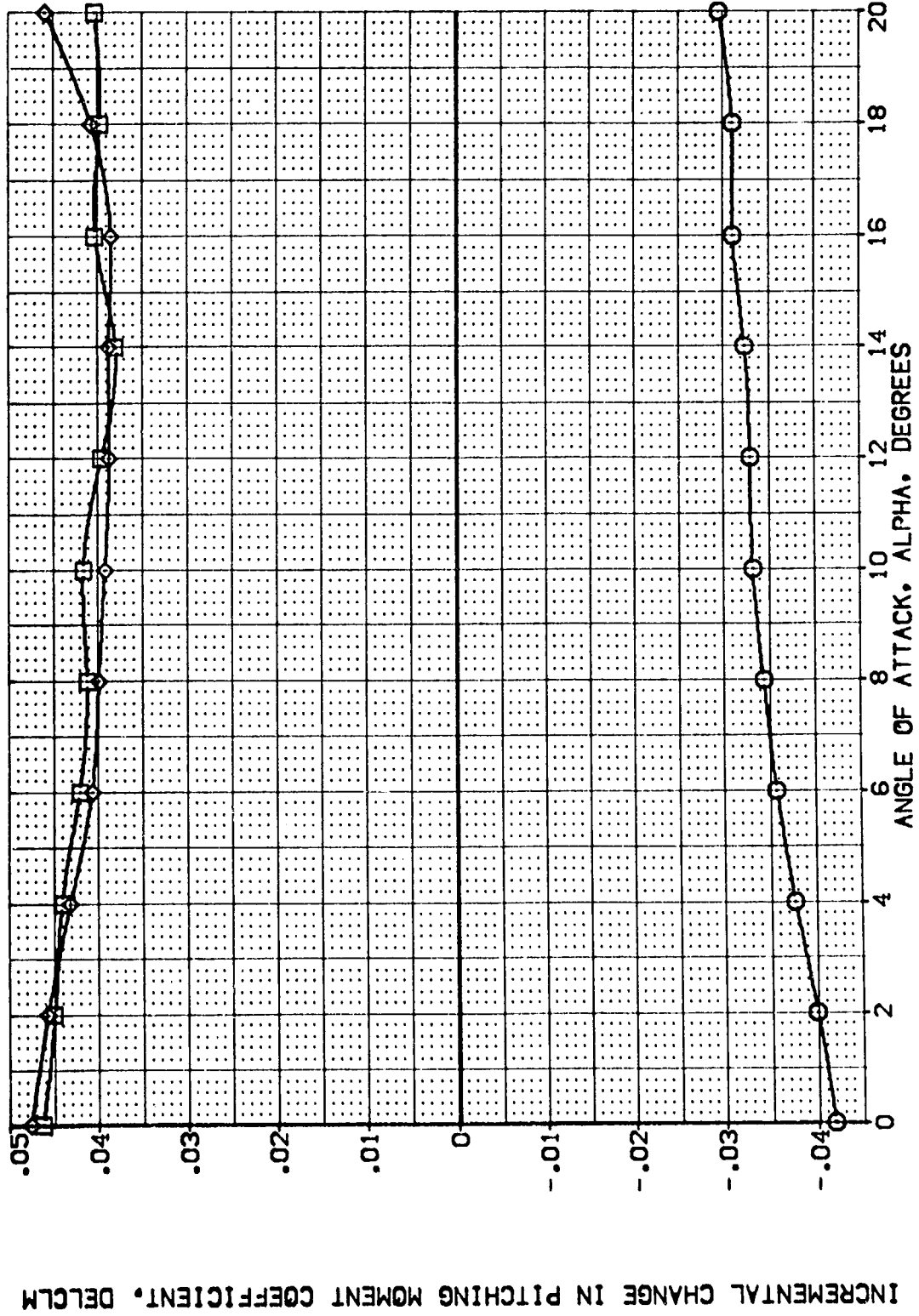
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SPDBRK	RUDER	BOFLAP	ELEVTR	REFERENCE INFORMATION
PS2046	PS2C 531(DA49) 038 34-0 (BOFM)(NE)(VR)	.000	.000	-11.700	4.160	SREF 2741.8000 SQ. FT
PS2048	PS2C 531(DA49) 038 34-0 (BOFM)(NE)(VR)	85.000	.000	-11.700	4.160	LREF 481.6480 IN.
PS2112	PS2C 531(DA49) 038 34-0 (BOFM)(NE)(VR)	85.000	.000	16.300	4.160	BREF 936.7000 IN.
						XREF 1081.3900 IN.
						YREF .0000 IN.
						ZREF .0000 IN.
						SCALE .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = 1.20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SPDBRK	RUDER	BOFLAP	ELEVTR	REFERENCE INFORMATION
(P52046)	MSC 581(0A49) 088 34-0 (BOFH)(VE)(VR)	.000	.000	-11.700	4.160	SREF 2741.8000 SQ. FT
(P52048)	MSC 581(0A49) 088 34-0 (BOFH)(VE)(VR)	65.000	.000	-11.700	4.160	LREF 481.6480 IN.
(P52112)	MSC 581(0A49) 088 34-0 (BOFH)(VE)(VR)	65.000	.000	16.300	4.160	BREF 936.7000 IN.
						XMRP 1081.3500 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0040

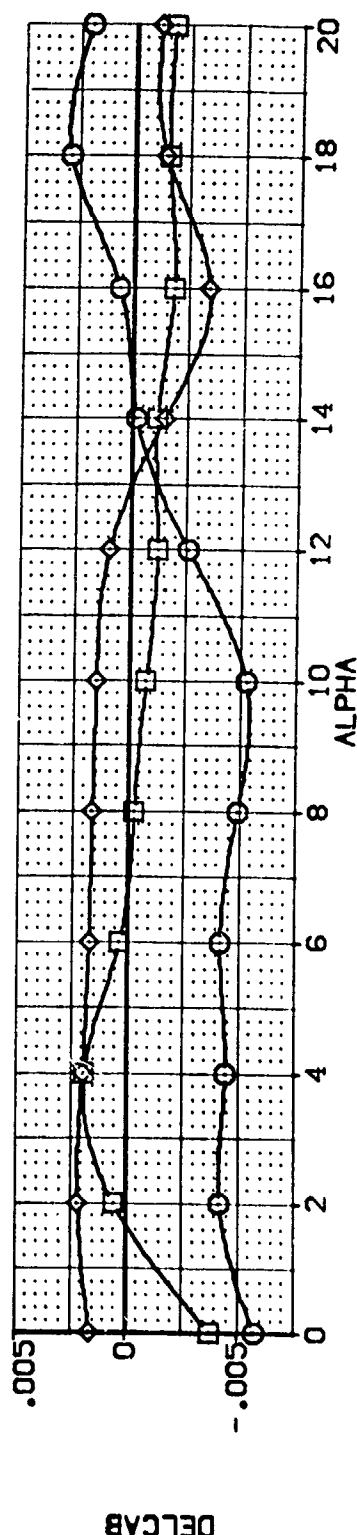
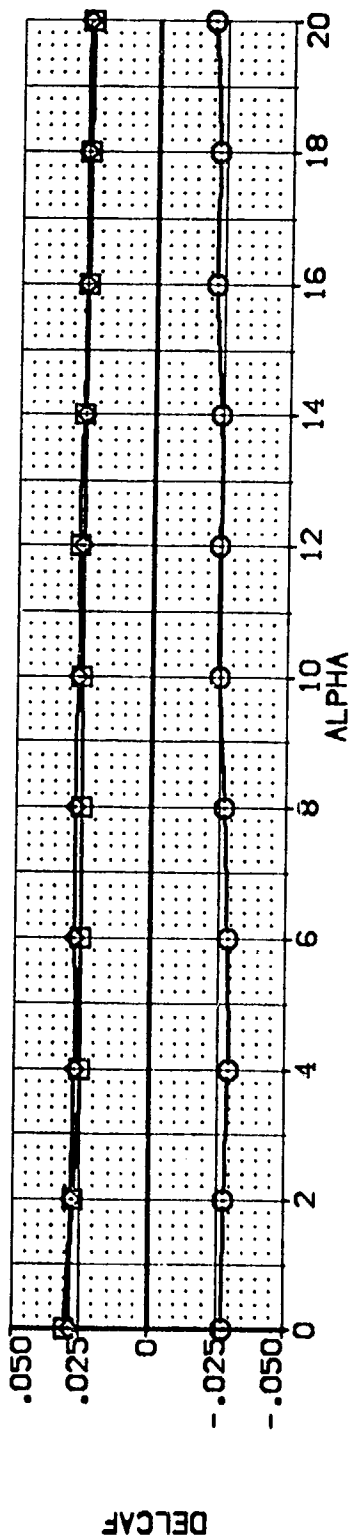
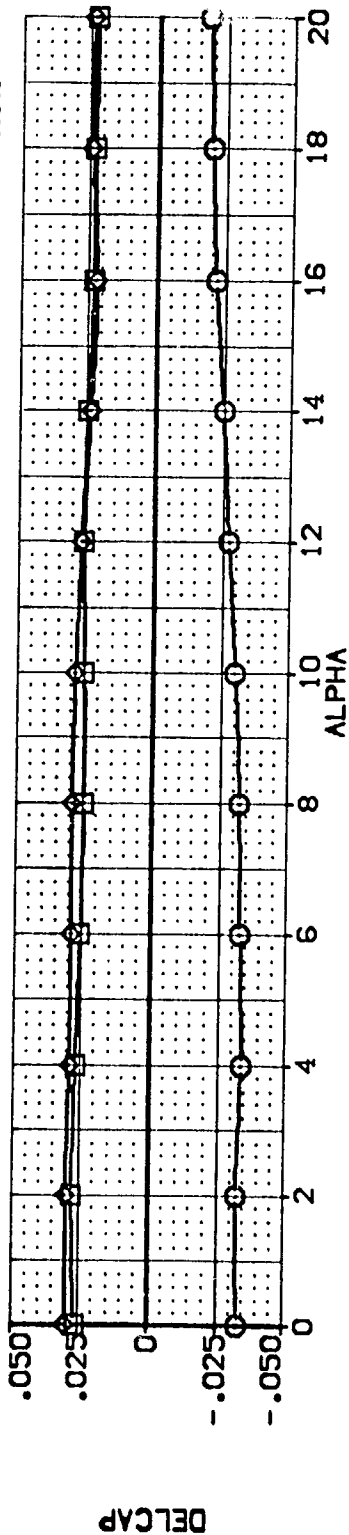


SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = 1.20

DATA SET SYMBOL CONF (URATION) DESCR (PTION)
 {P82048} H5TC 581 (0A49) 0R3 34-0 (BCFM) (VE) (VR)
 {P82049} H5TC 581 (0A49) 0R3 34-0 (BCFM) (VE) (VR)
 {P82112} H5TC 581 (0A49) 0R3 34-0 (BCFM) (VE) (VR)

SPDBRK RUDDER BOFLAP ELEVTR REFERENCE INFORMATION
 .000 .000 -11.700 4.150 SREF 2741.8000 SQ. FT
 85.000 .000 -11.700 4.150 LREF 481.6480 IN.
 45.000 .000 16.300 4.150 BREF 936.7000 IN.
 XMRP YMRP ZMRP .0000 IN.
 SCALE .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = 1.20

(P92046)

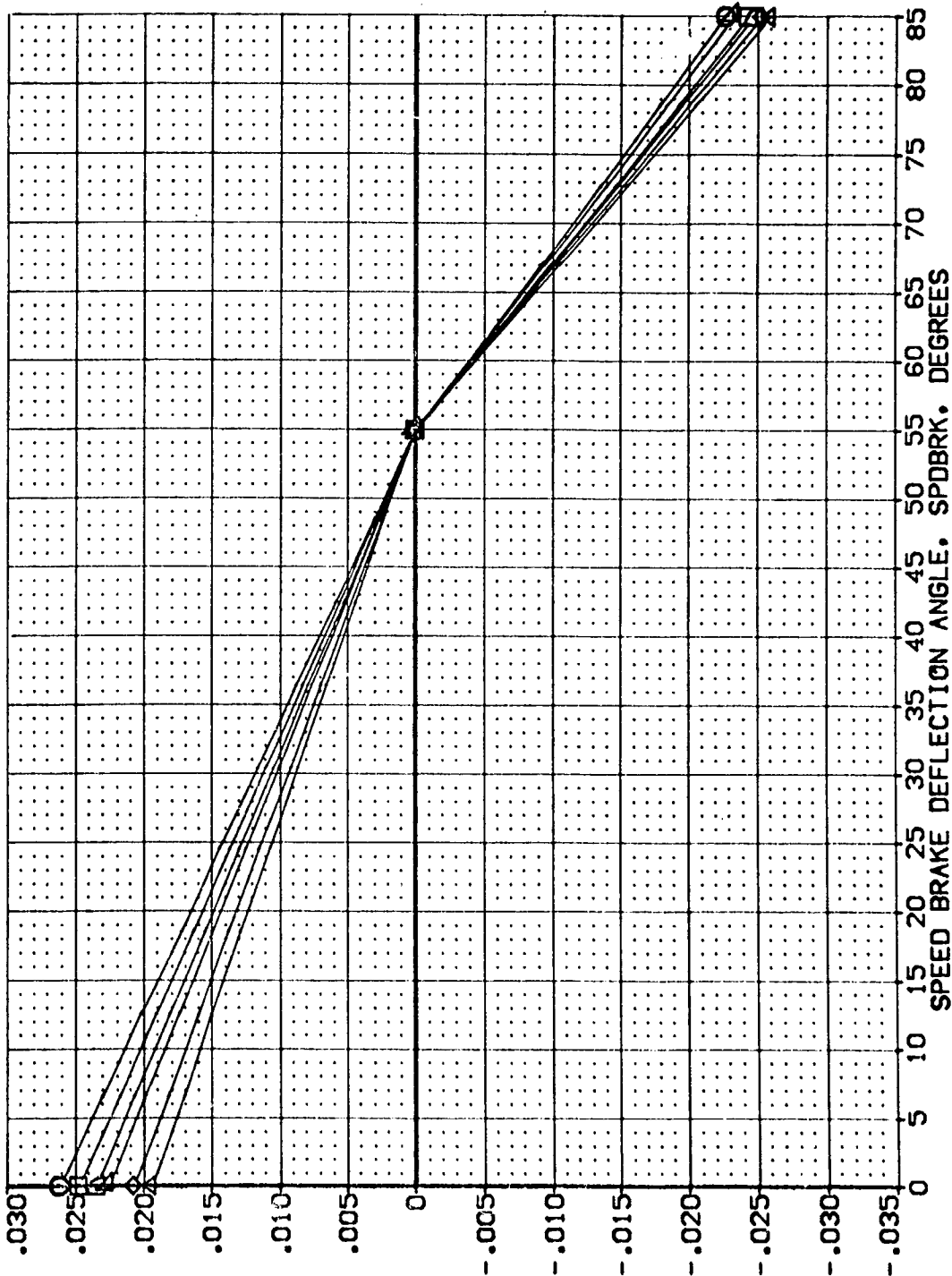
ALPHA
0.000
2.000
4.000
6.000
8.000
10.000

PARAMETRIC VALUES	
1.198	RUDDER
-11.700	ELEVTR
-.570	BETA
1.000	

DATA SOURCE
SPURK
000
85,000

DATASET	SPOBRK
092G04	55.000

REFERENCE INFORMATION	
	SQ. FT.
2741.8000	IN.
481.6480	IN.
936.7000	IN.
1081.3500	IN.
.0000	IN.
.0000	IN.
.0040	IN.



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

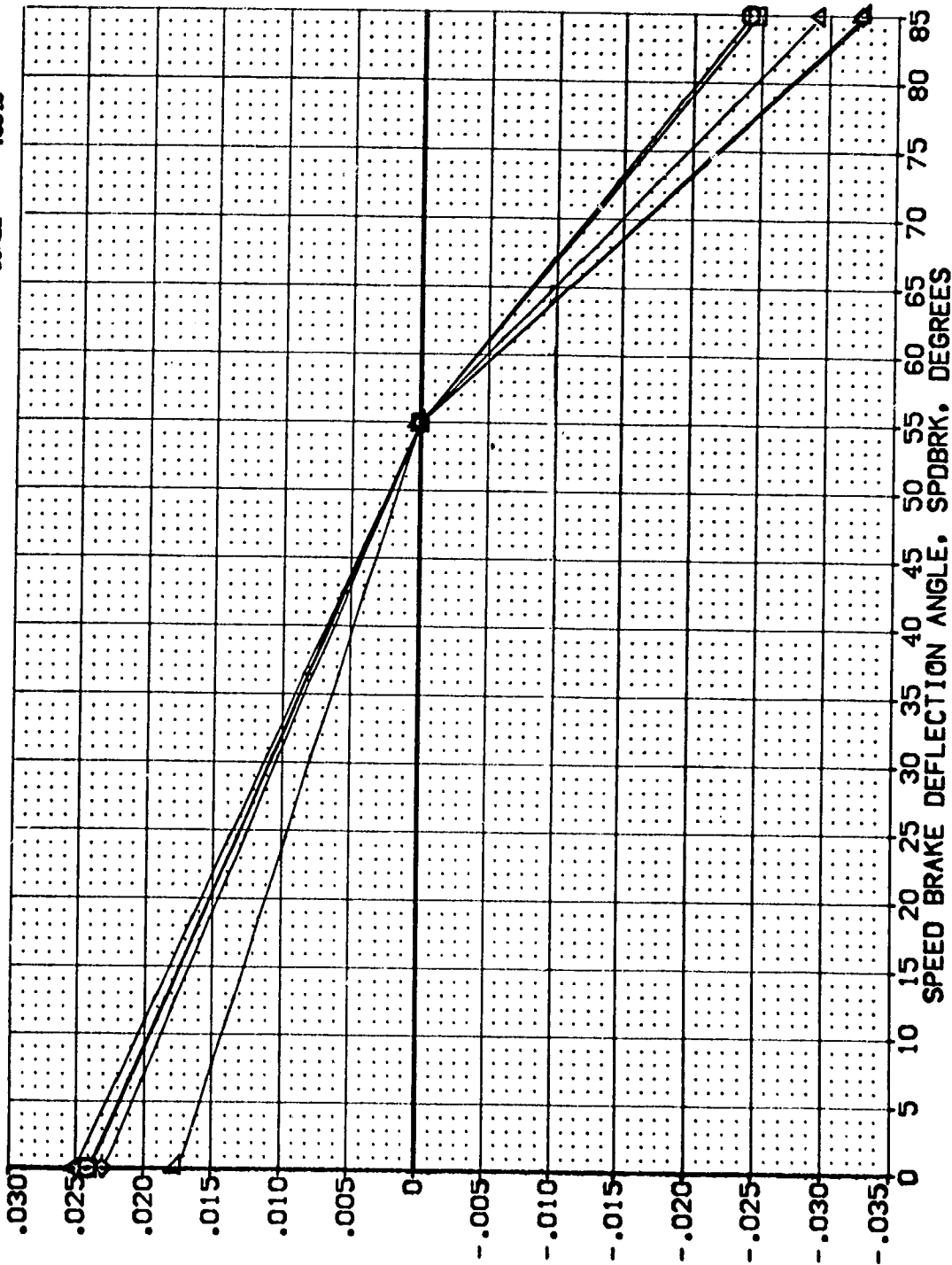
(P92046)

SYMBOL
 ○ □ ◇ △ ▽

PARAMETRIC VALUES
 ALPHA 12.000 MACH 1.198 RUDDER
 14.000 80FLAP -11.700 ELEVTR
 16.000 AILRON -.670 BETA
 18.000 CONF16 1.000
 20.000

DATA SOURCE
 SPDBRK .000 DATASET
 SPDBRK 4.160 P92046
 SPDBRK .000 P92046
 SPDBRK 85.000

REFERENCE INFORMATION
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 LREF 481.6480 IN.
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 YMRP 1081.0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

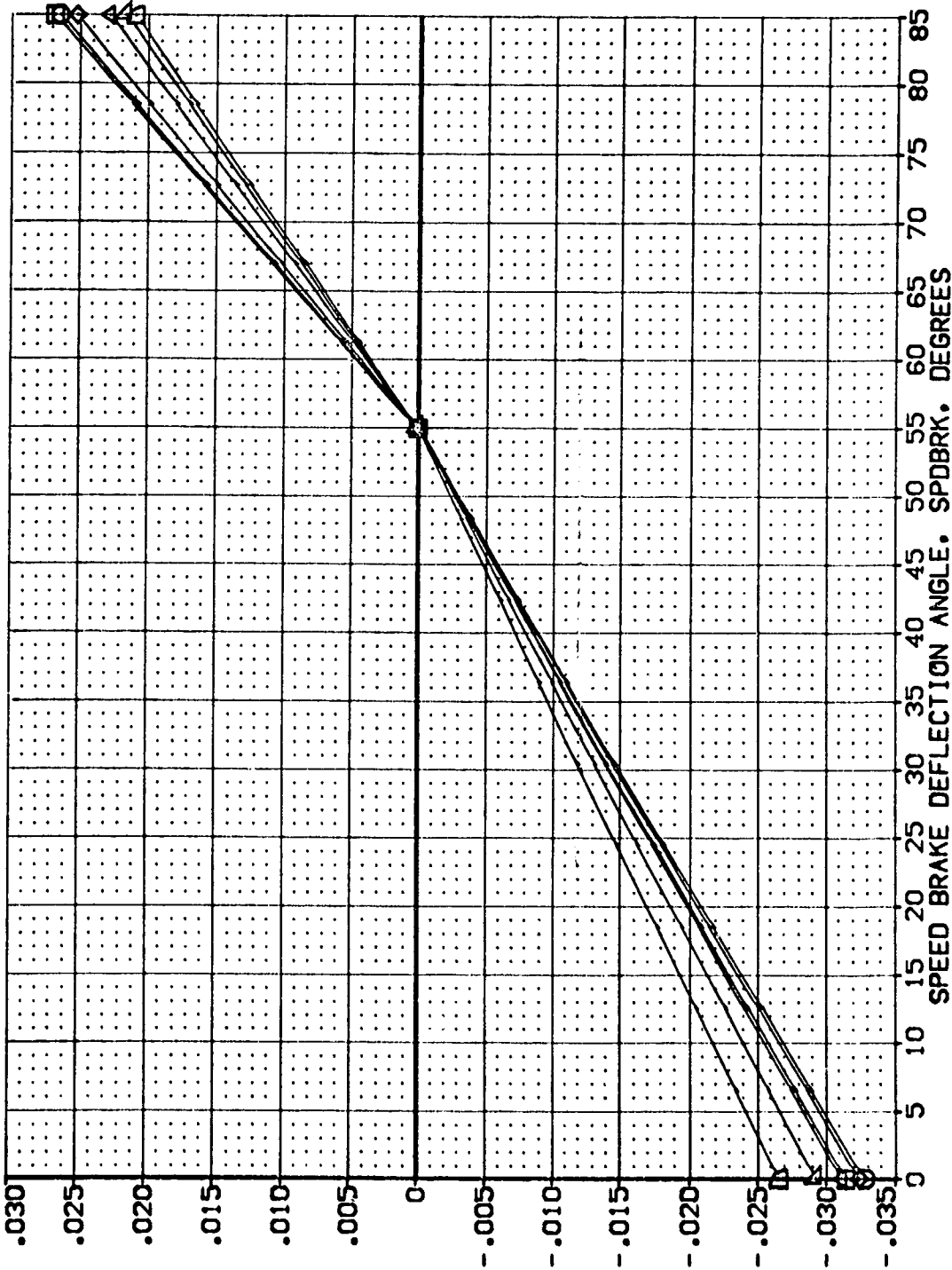


INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92046)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
.000	MACH	.000 DATASET	SREF 2741.8000
2.000	EDFLAP	4.160 P92046	LREF 481.6480
4.000	AILEON	.000 P92048	BREF 936.7000
6.000	CONF16		XMRP 1081.3500
8.000			YMRP .0000
10.000			ZMRP .0000
			SCALE .0040



INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCO

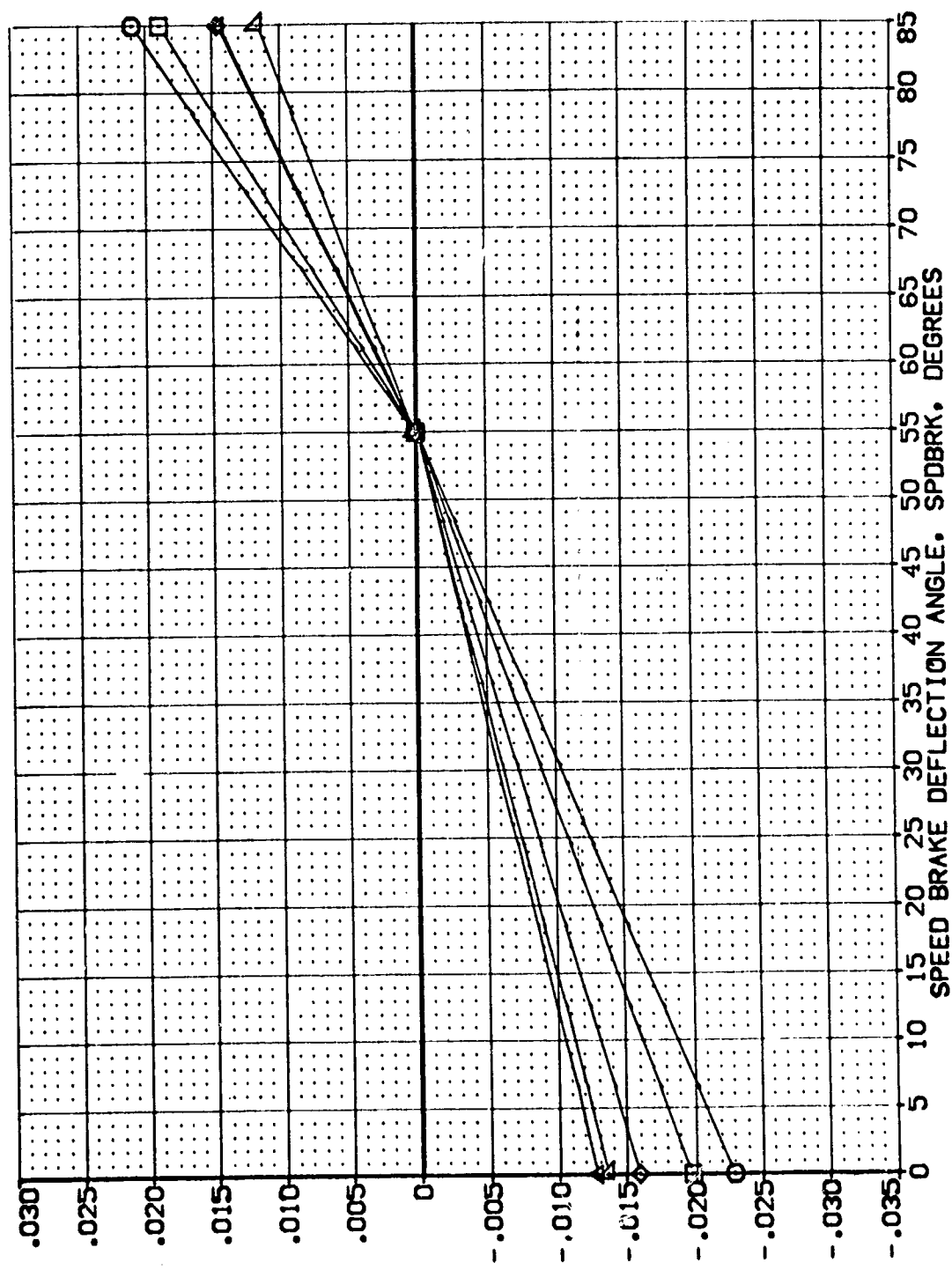
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92046)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
12.000	MACH 1.198	SPDBRK	2741.8000
14.000	BDFLAP -11.700	SPDBRK 55.000	481.6480
16.000	AILRON -0.670	DATA SET 692604	936.7000
18.000	CONF10 1.000	.000 DATASET .000	1081.3800
20.000		4.160 P92046 .000	.0000
		.000 P92046 65.000	.0000
			SCALE .0040

SYMBOL
 7
 4
 4
 4
 4

INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCO

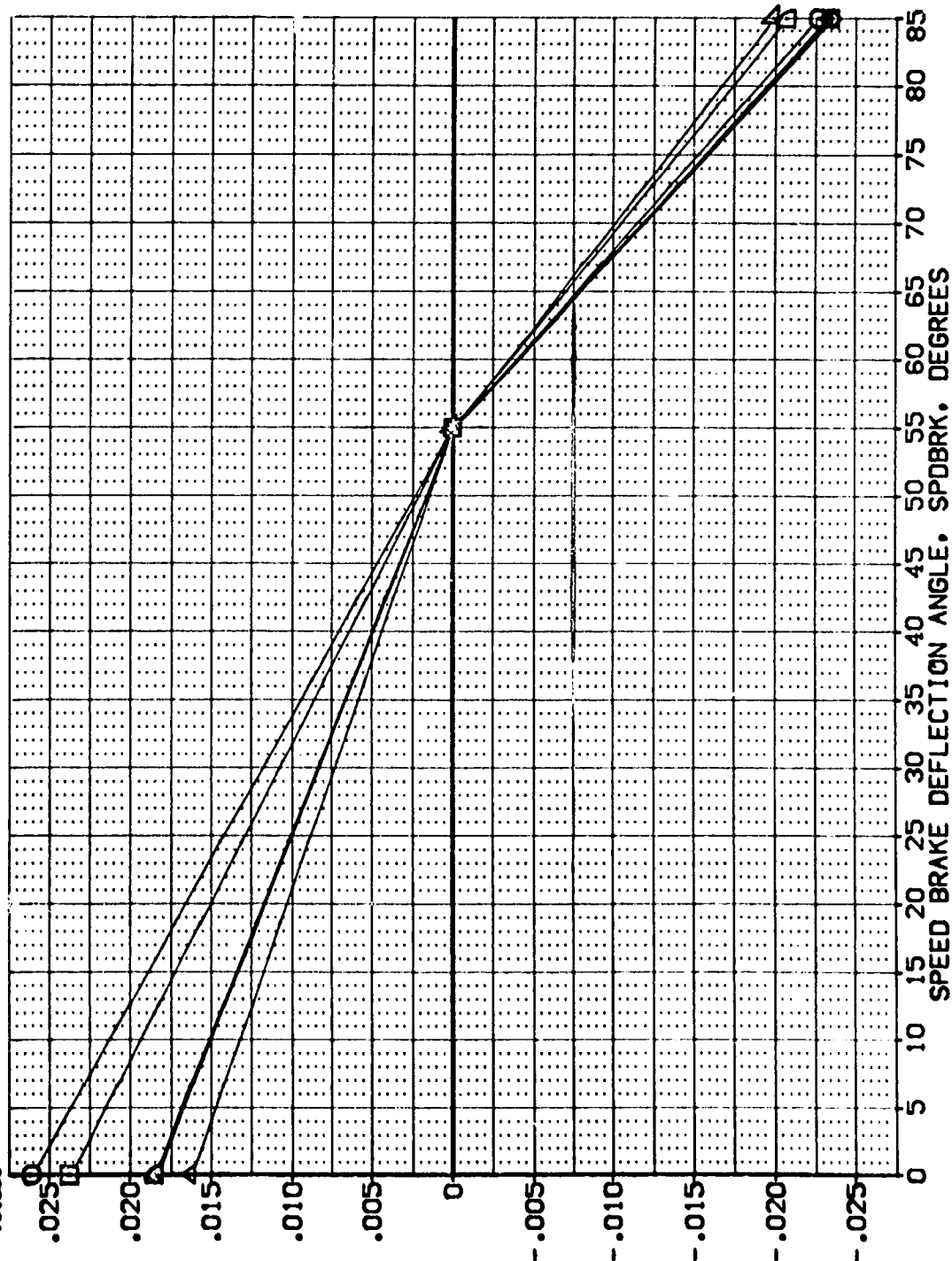


SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92046)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
□	.000		1.198	RUDDER	.000	SPDBRK	SREF	2741.8000
□	2.000	BOFLAP	-11.700	ELEVTR	4.160	P92046	LREF	481.6480
□	4.000	AIRBRN	-.670	BETA	.000	P92048	BREF	936.7000
□	6.000	CONF16	1.000		.000		YMRP	1081.3500
□	8.000				.000		ZMRP	.0000
□	10.000				.000		SCALE	.0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92046)

SYMBOL
 7
 4
 4
 4
 4

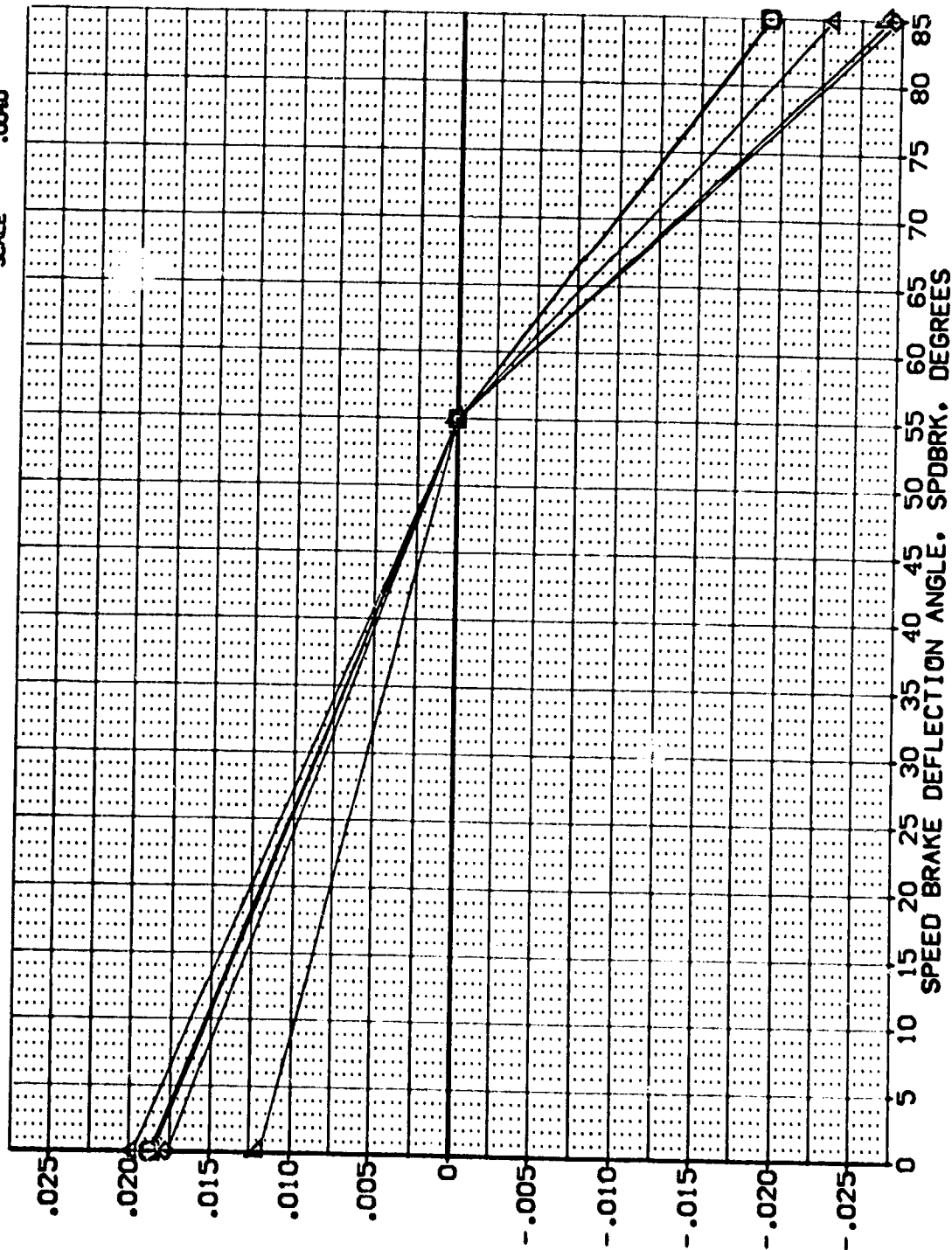
ALPHA
 12.000
 14.000
 16.000
 18.000
 20.000

PARAMETRIC VALUES
 MACH 1.198
 RUDDER -11.700
 ELEVTR -0.670
 BETA 1.000

DATA SOURCE
 SPDBRK
 DATASET
 .000
 .160
 .000
 P92046
 P92046
 P92046

REFERENCE INFORMATION
 SPDBRK 2741.8000
 LREF 481.6480
 BREF 926.7000
 YPRP 1081.3900
 ZPRP .0000
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92046)

SYMBOL
 ▽
 ◇
 □
 ○
 ○

ALPHA
 .000
 2.000
 4.000
 6.000
 8.000
 10.000

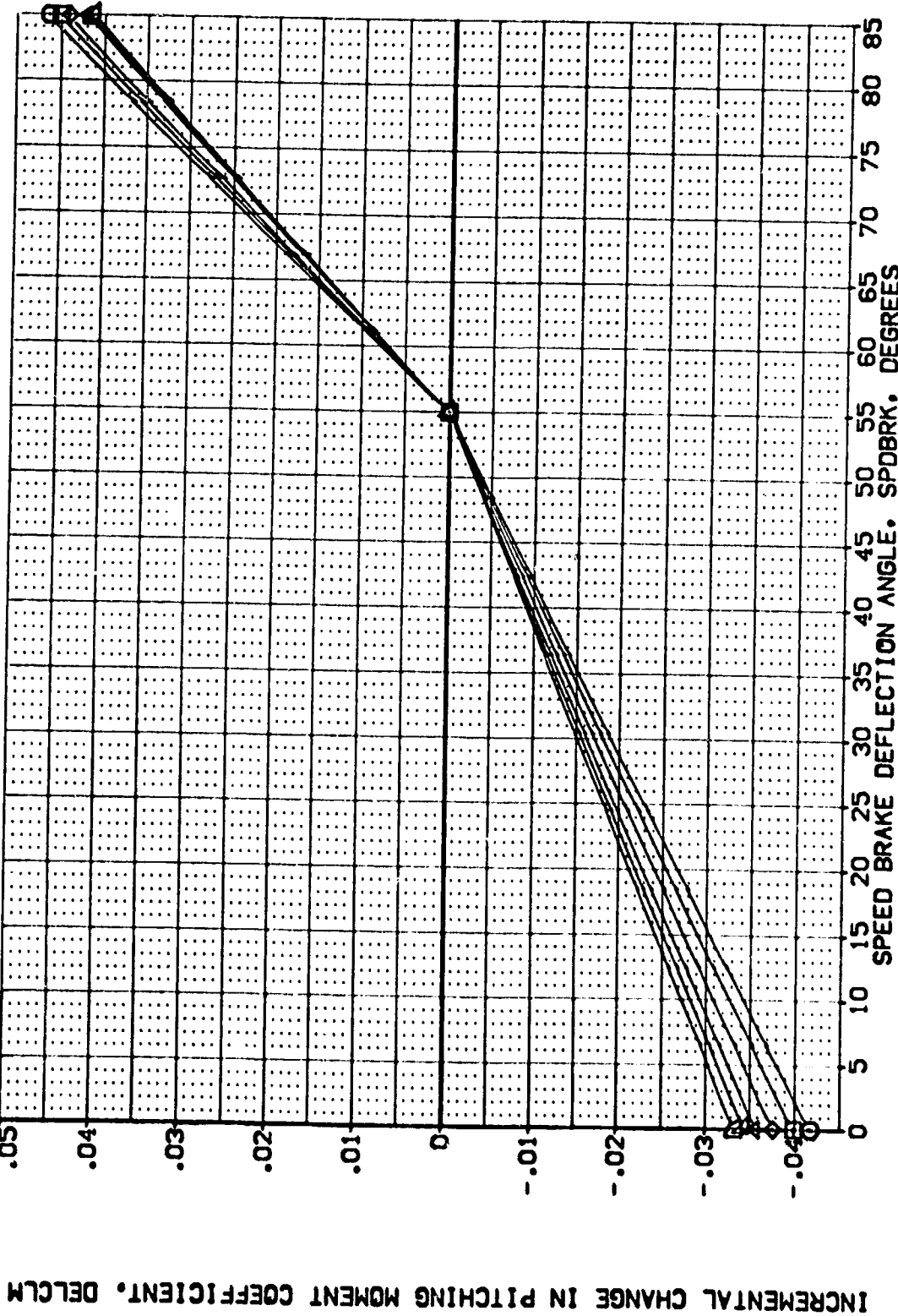
PARAMETRIC VALUES
 MACH 1.158
 BDFLAP -11.700
 ALLIGN -5.670
 CSF16 1.000

RUDDER
 ELEVTR
 BETA

DATA SOURCE
 SPDBRK
 DATASET
 P92046
 P92046

SPDBRK
 55.000
 55.000

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XREF 1081.3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(OA49) ORB 34-0 (BCFM)(WE)(VR) (P92046)

000000

ALPHA
12.000
14.000
16.000
18.000
20.000

CONFIDENTIAL
AIRLIFT
REFUGEE
MACH

PARAMETRIC VALUES	
1.198	RUDER
-11.700	ELEVTR
-.670	BETA

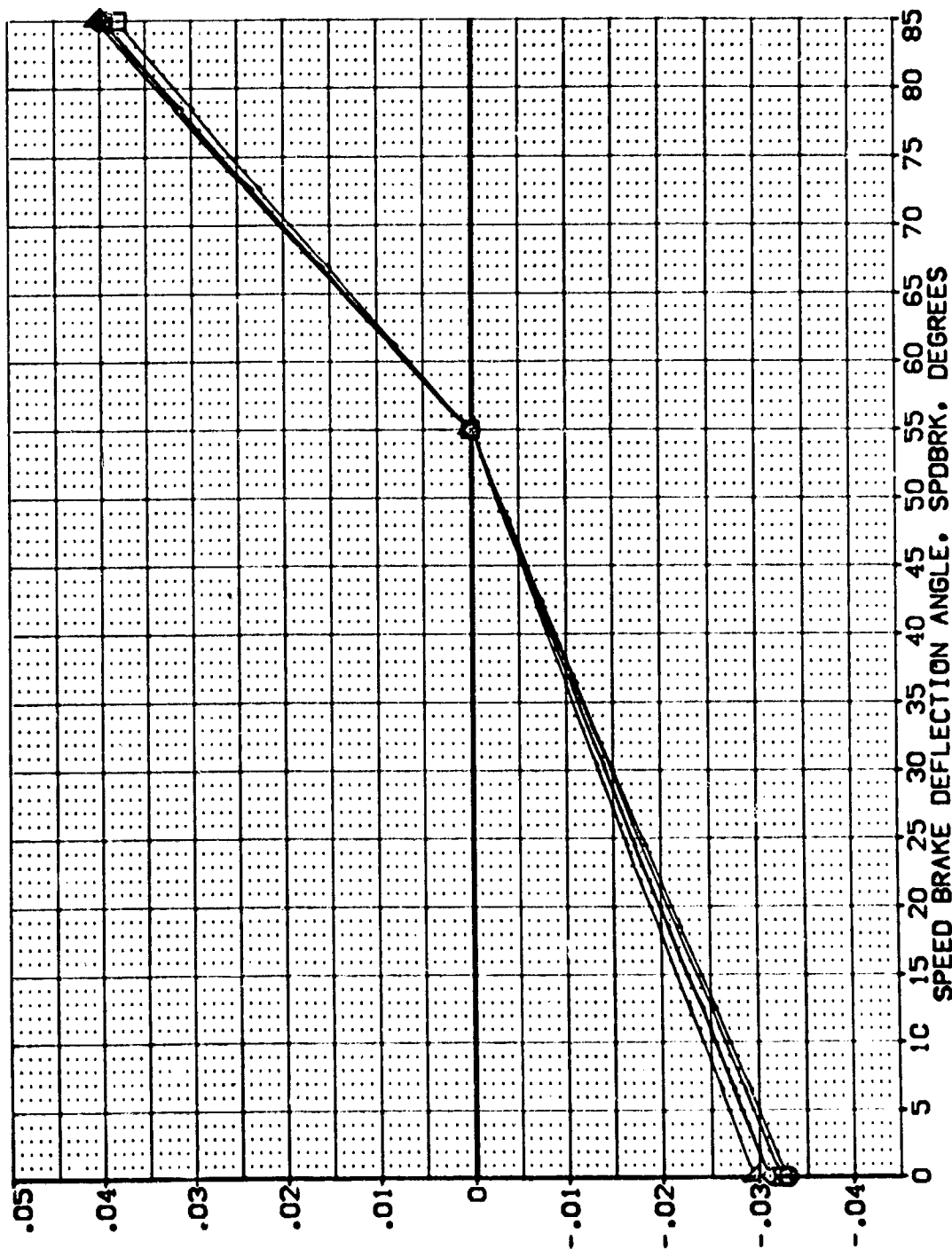
.000	DATASET	DATA SET
.160	P92046	SPURK
.000	P92048	65,000

DATE DATASET 870604 55.000

37025 SCALE
0000Z
0000X
13008
13017
13015

REFERENCE INFORMATION

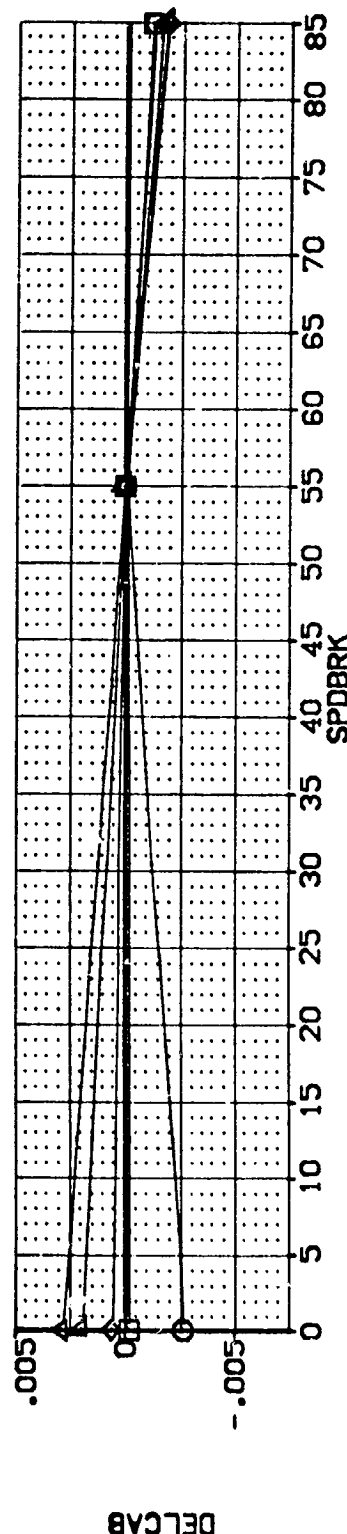
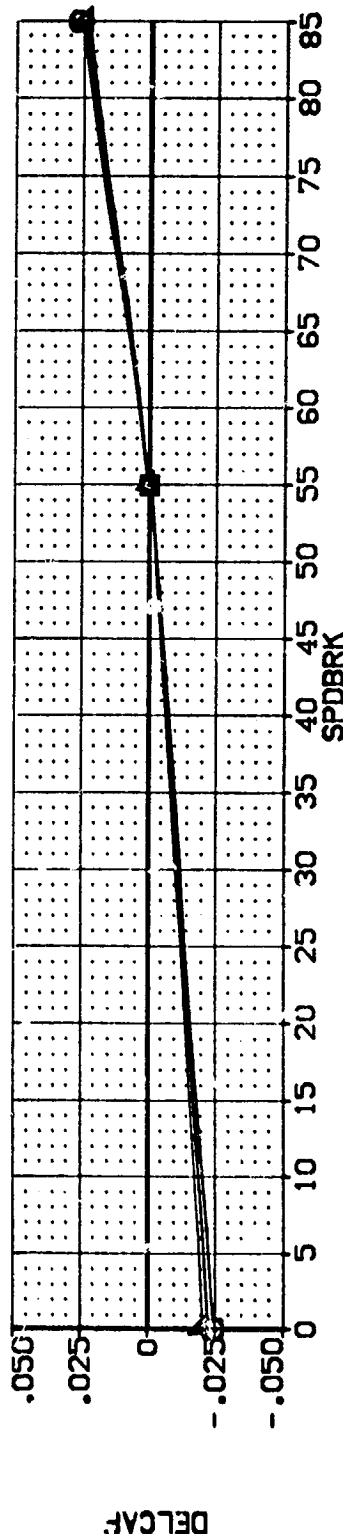
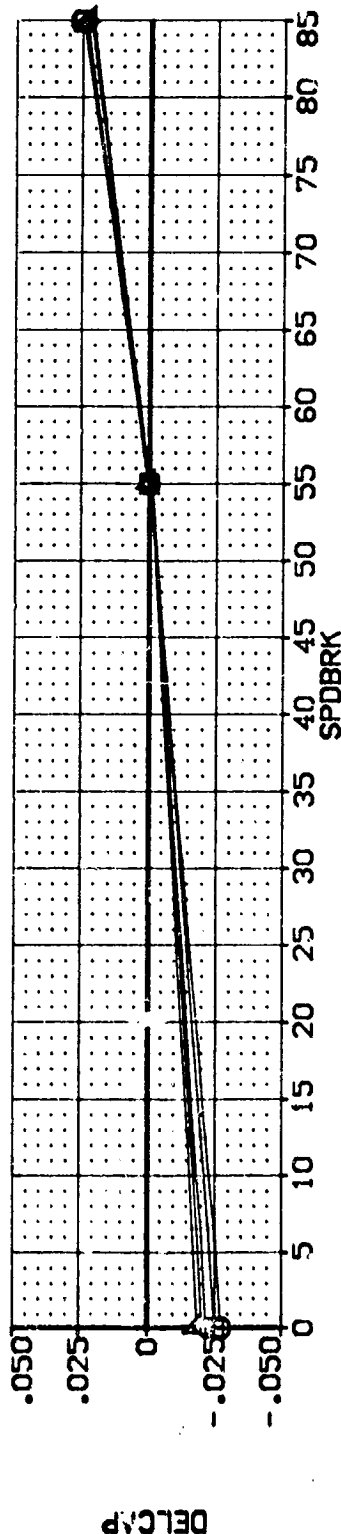
2741	5000	50	FT
481	6480	IN.	
536	7000	IN.	
1081	3500	IN.	
	0000	IN.	
	0000	IN.	
	0040	IN.	



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92046)

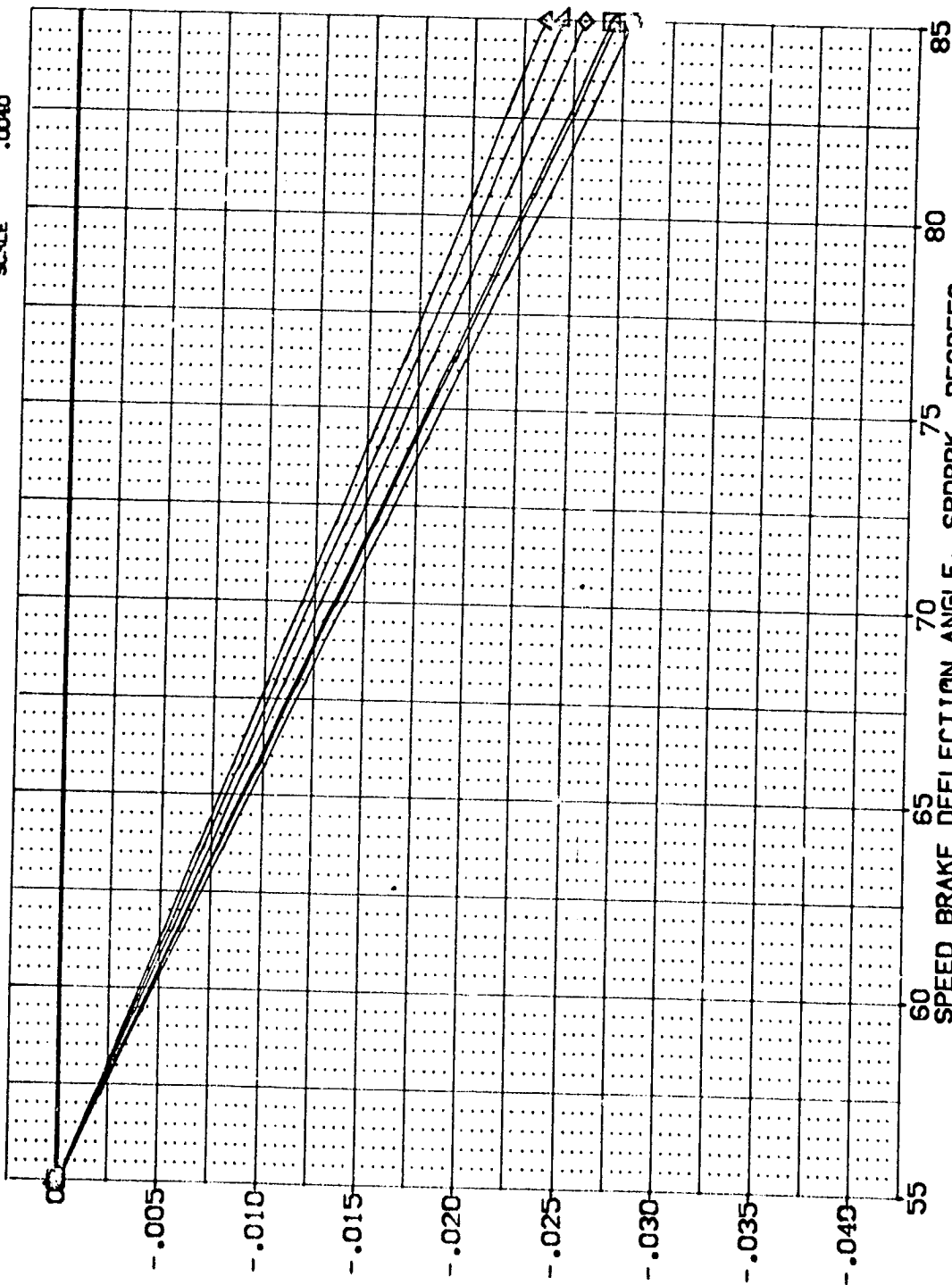
SYMBOL	ALPHA	MACH	PARAMETRIC VALUES			DATA SOURCE			REFERENCE INFORMATION		
○	12.000		1.198	RUDDER	.000	DATASET	SPDBRK	SREF	7741.8000	80. FT	
□	14.000	BDFLAP	-1.700	ELEVTR	4.160	P92046	.000	LREF	481.6480	IN.	
◇	16.000	AILERON	-.670	BETA	.000	P92048	85.000	BREF	956.7000	IN.	
△	18.000	CONFIG	1.000					XPRP	1081.3500	IN.	
▽	20.000							YPRP	.0000	IN.	
								ZPRP	.0000	IN.	
								SCALE	.0040		



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92112)

SYMBOL	ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	.000	MACH	.000 DATASET	SREF 2741.8000 SQ. FT
□	2.000	BDFLAP	4.160 P92112	LREF 481.6480 IN.
◇	4.000	AILETRON	.000	BREF 536.7000 IN.
▽	6.000	CONF16		YMRP 1081.3500 IN.
▽	8.000			ZMRP .0000 IN.
▽	10.000			SCALE .0040

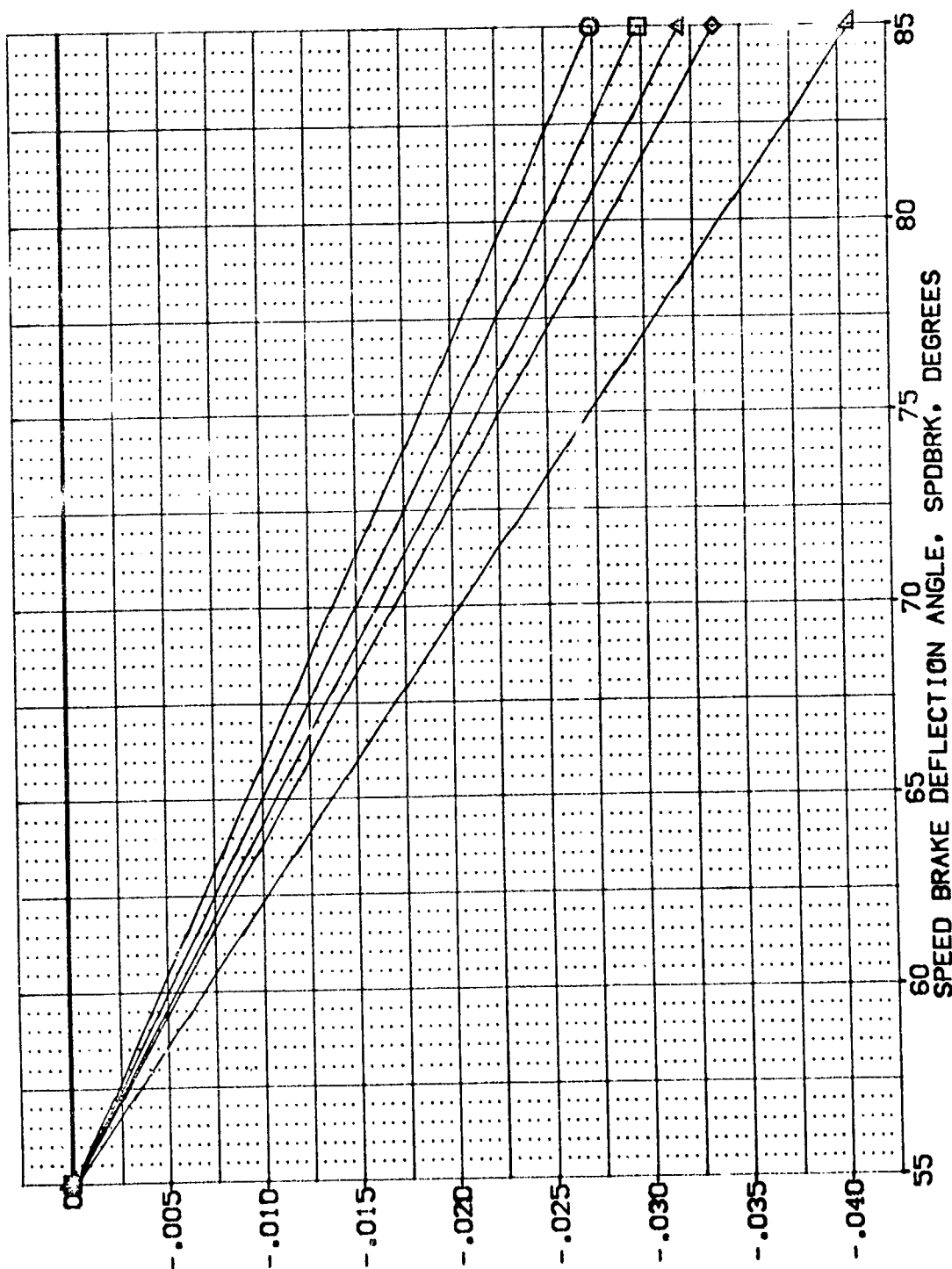


INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92112)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	12.000	1.202	RUDER	.000	DATASET	SPDBRK	SREF	50. FT
□	14.000	16.300	ELEVTR	4.160	P92112	55.000	LREF	IN:
◇	16.000	-.670	BETA	.000			BREF	IN:
△	18.000	1.000					XREF	IN:
							YREF	IN:
							ZREF	IN:
							SCALE	.0040

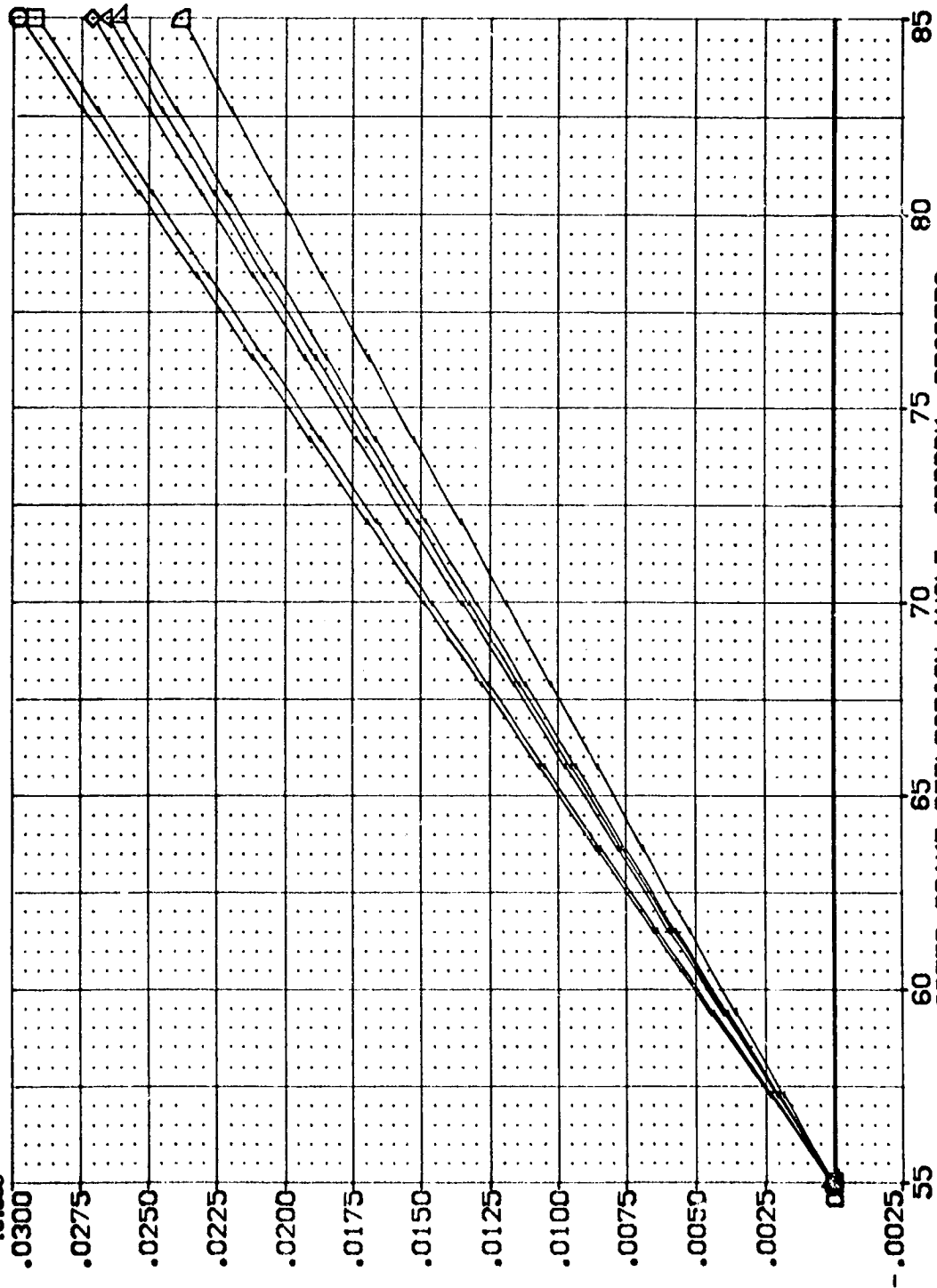


SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92112)

ALPHA	PARAMETRIC VALUES			DATA SOURCE			REFERENCE INFORMATION		
.000	MACH	1.202	RUDDER	.000	DATASET	SPDBRK	SREF	2741.8000	90. FT
2.000	BDFLAP	16.300	ELEVTR	4.160	P92112	65.000	LREF	481.6460	IN:
4.000	AILRON	-6.670	BETA	.000			BREF	936.7000	IN:
6.000	CONF18	1.000					XTRP	1081.3500	IN:
8.000							YTRP	.0000	IN:
10.000							ZTRP	.0000	IN:
							SCALE	.0040	

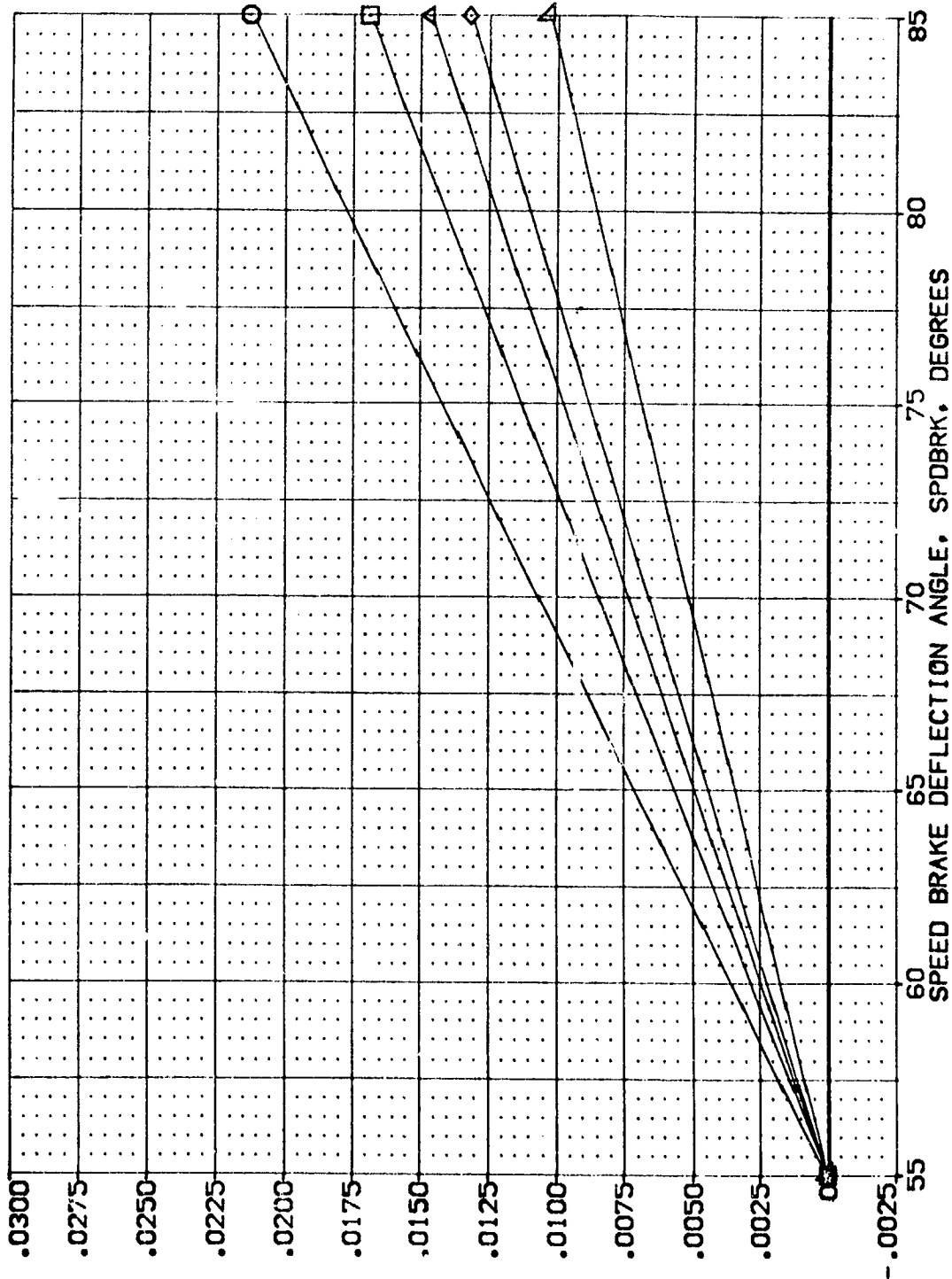
INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92112)

PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
ALPHA	SPDBRK	SREF
12.000	65.000	2741.6000
14.000	P92112	LREF
16.000	4.160	431.6480
18.000	.000	BREF
20.000	.000	XPRP
		YPRP
		ZPRP
		SCALE
		.0040



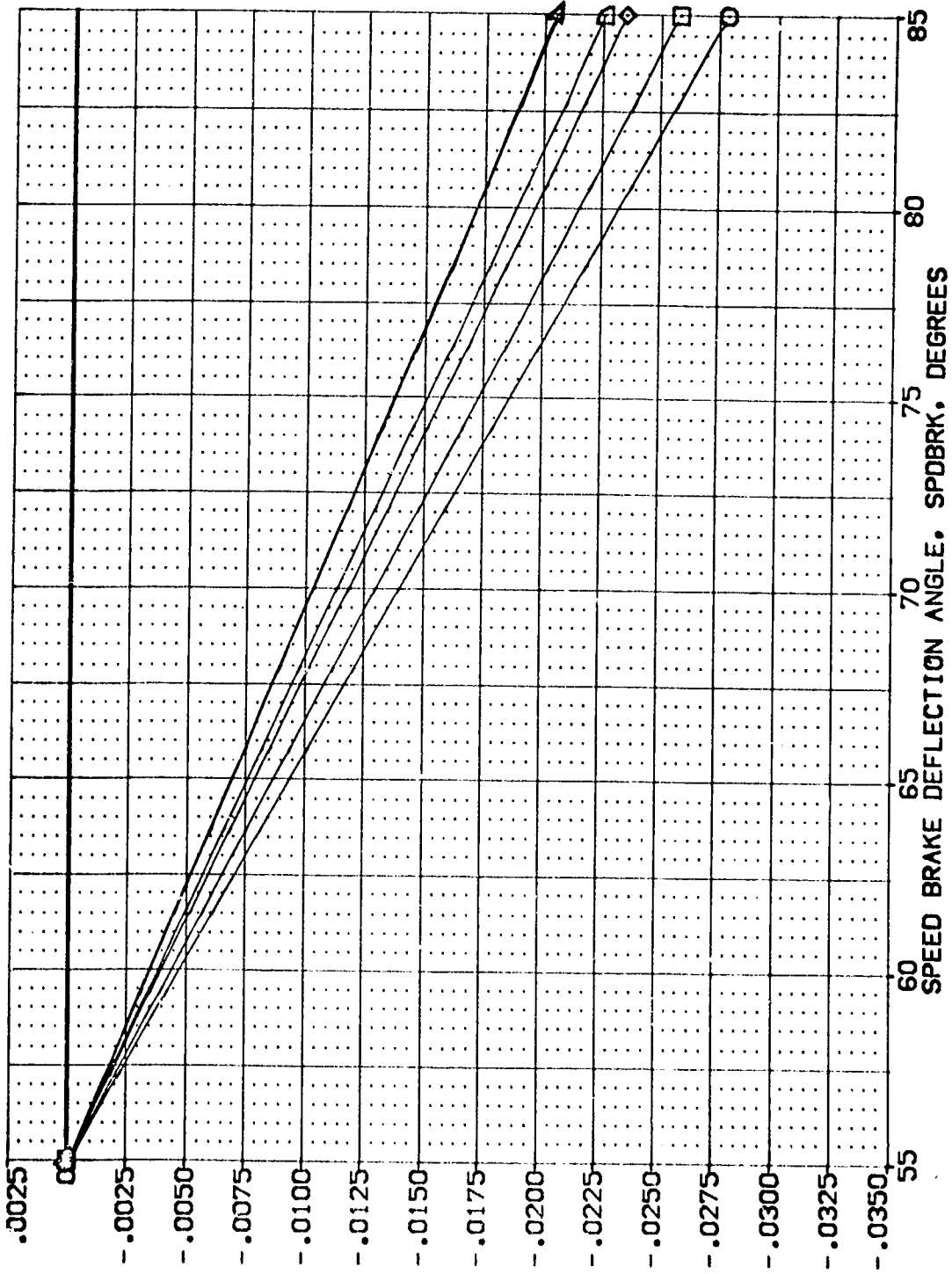
INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92112)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	.000 DATASET	SPDBRK	SREF	2741.8000
.000	BDPLAP	4.160 P92112	55.000	LREF	481.6480
2.000	AILRON	.000		BREF	936.7000
4.000	CONF16			XTRP	1081.3900
6.000				YTRP	.0000
8.000				ZTRP	.0000
10.000				SCALE	.0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92112)

SYMBOLS

ALPHA
12.000
14.000
16.000
18.000
20.000

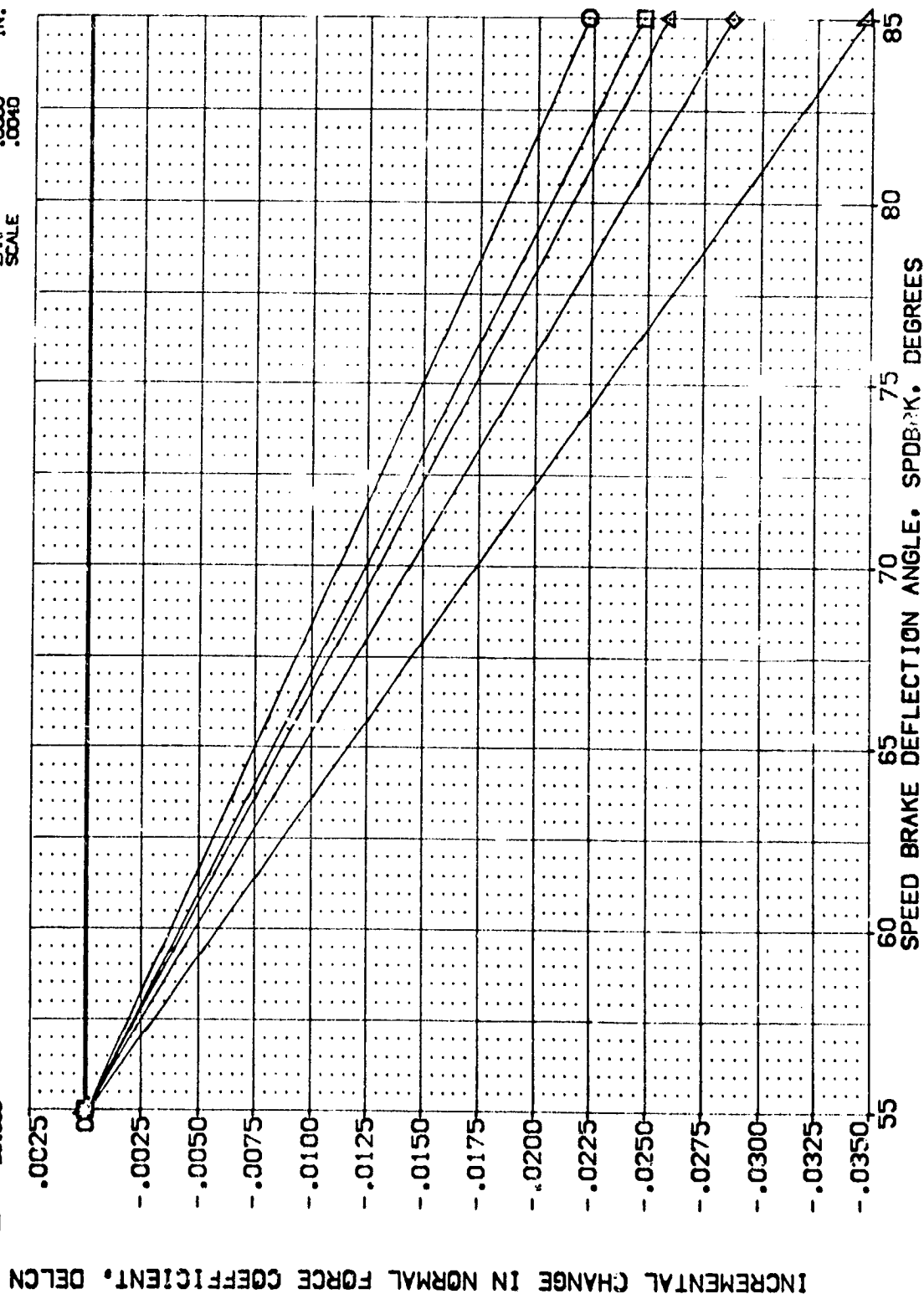
WACH
BDFLAP
A1LRON
CONFIG

PARAMETRIC VALUES
1.202 RUDDER
16.300 ELEVTR
--.670 BETA
1.000

DATA SET	DATASET	
SPOBRK		.000
85.000	P92112	4.160
		.000

DATASET	SP08RK
CSZC07	55.000

REFERENCE INFORMATION		SG	FT
SREF	2741.8000	IN.	
LREF	481.6480	IN.	
BREF	936.7000	IN.	
XPRP	1081.3300	IN.	
YPRP	.0000	IN.	
ZPRP	.0000	IN.	
SCALE	.0040		



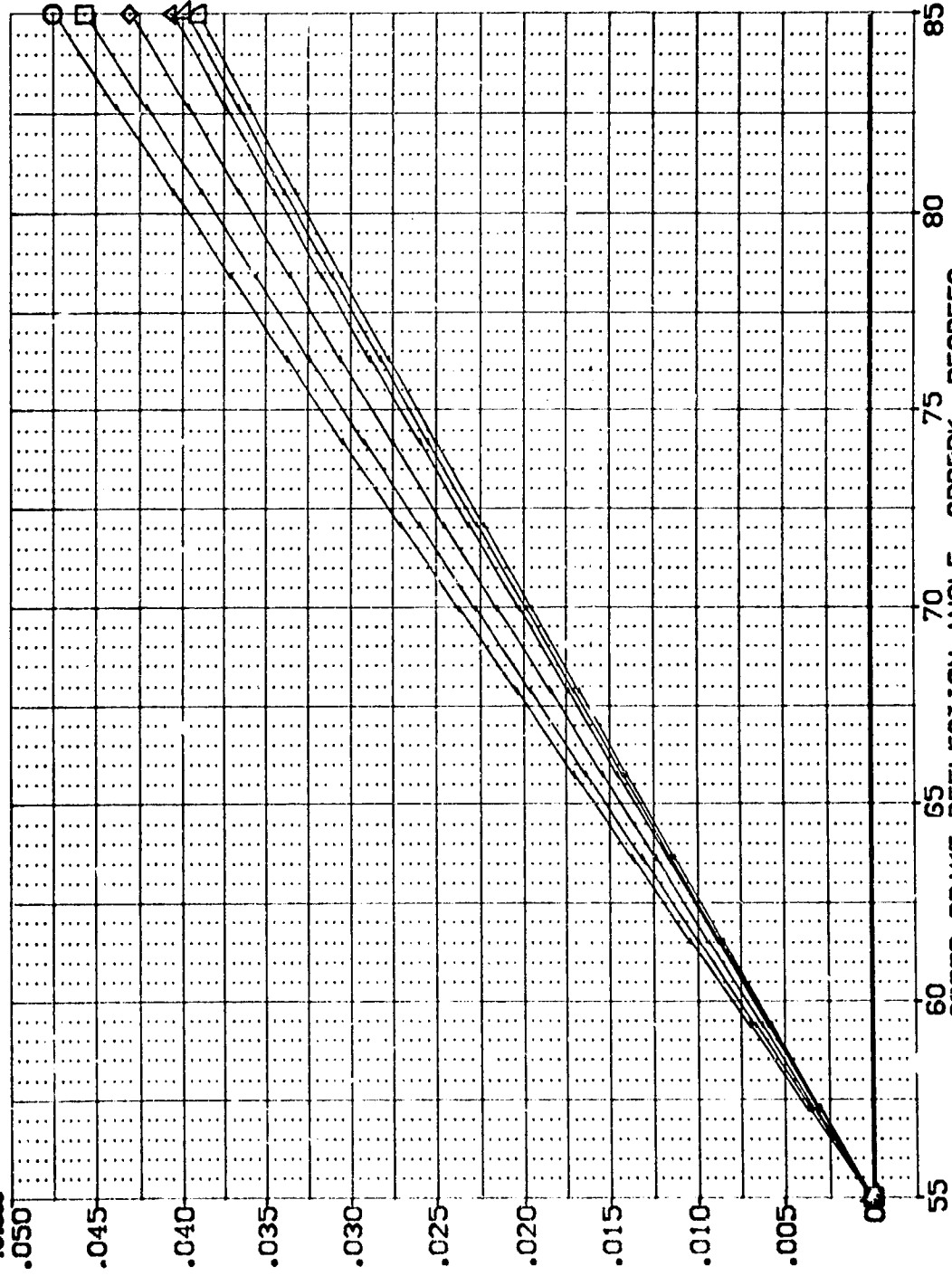
SPEED BRAKE DEFLECTION ANGLE, SPDBRK, DEGREES

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPODBR)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92112)

SYMBOL	ALPHA	MACH	BOFLAP	ATLRN	CONF16	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	.000	1.202	16.300	ELEVTR	BETA	.000 DATASET	SPDBRK	2741.8000 SQ. FT
□	2.000	16.300	16.300	ELEVTR	BETA	4.160 P92112	55.000	481.6480 IN.
◇	4.000	16.300	16.300	ELEVTR	BETA	.000	536.7000	536.7000 IN.
△	6.000	16.300	16.300	ELEVTR	BETA	.000	1081.3900	1081.3900 IN.
▽	8.000	16.300	16.300	ELEVTR	BETA	.000	1081.3900	1081.3900 IN.
▽	10.000	16.300	16.300	ELEVTR	BETA	.000	1081.3900	1081.3900 IN.
							SCALE	.0040

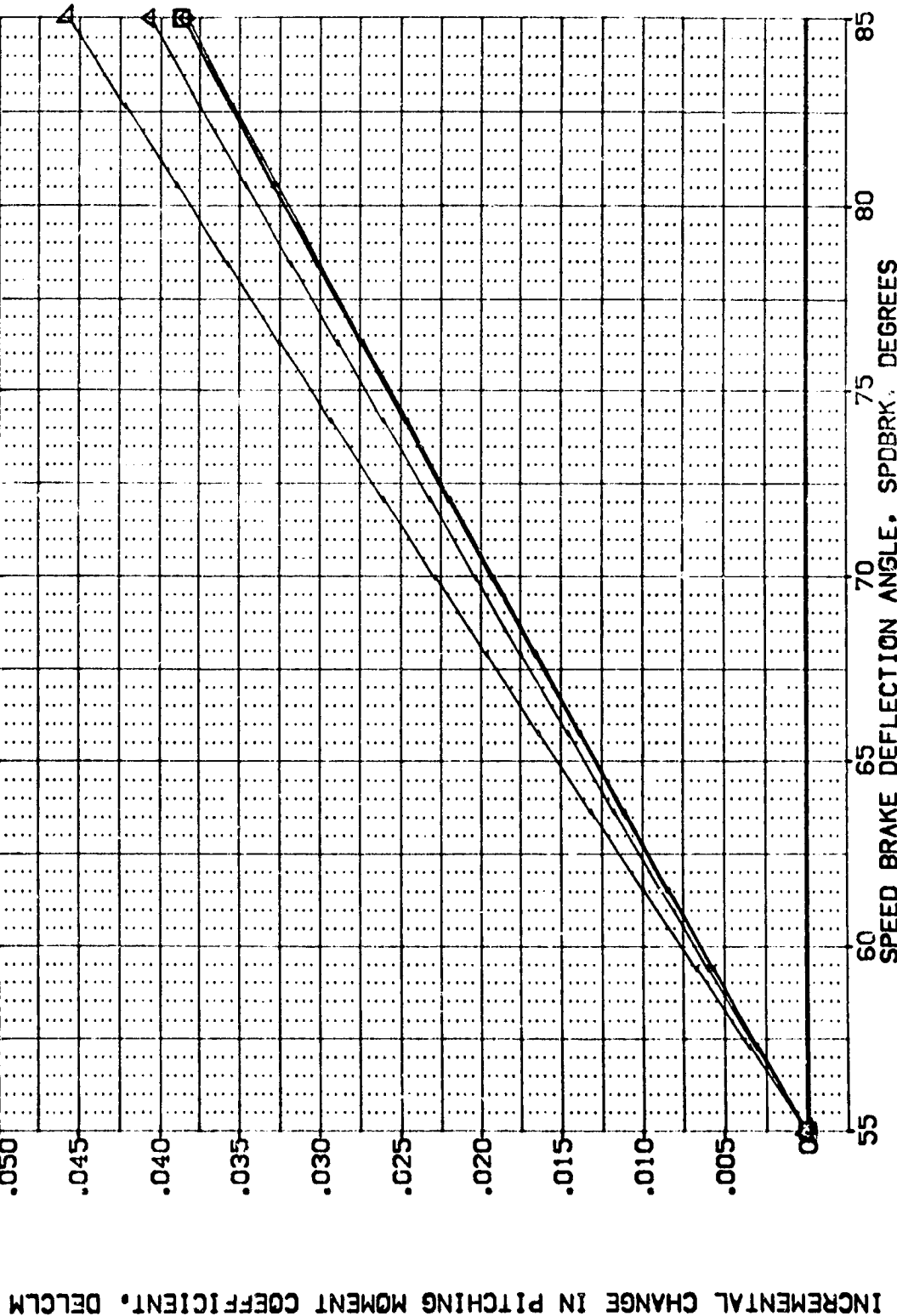
INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (P92112)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
□	ALPHA	MACH	1.202	RUDDER	SPDBRK	SREF	2741.8000
□	12.000	BDFLAP	16.300	ELEVTR	55.000	LREF	481.6480
◇	14.000	AILRON	-0.670	BETA		BREF	505.7000
◇	16.000	CONFIG	1.000			XREF	1381.3500
△	18.000					YREF	0.0000
△	20.000					ZREF	0.0000
						SCALE	0.0040
							SO: FT



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(P92112)

REFERENCE INFORMATION	50. FT
2741.8000	IN.
491.6480	IN.
936.7000	IN.
1081.3800	IN.
.0000	IN.
.0000	IN.
.0040	IN.

\$708K
55,000

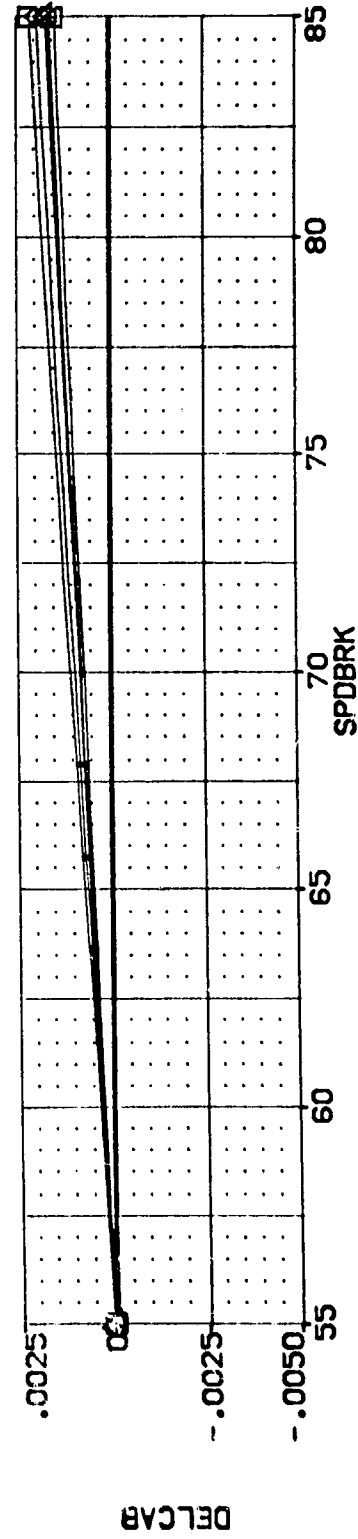
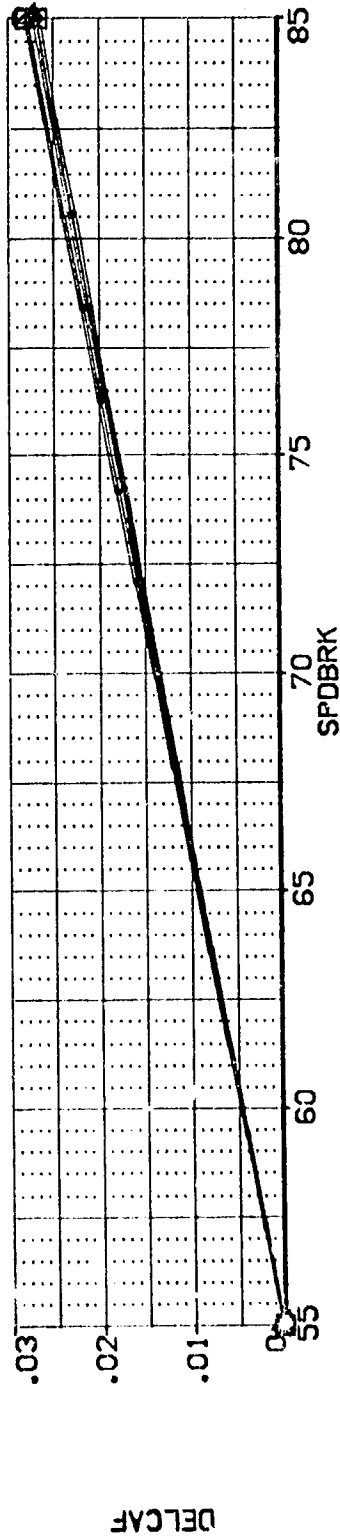
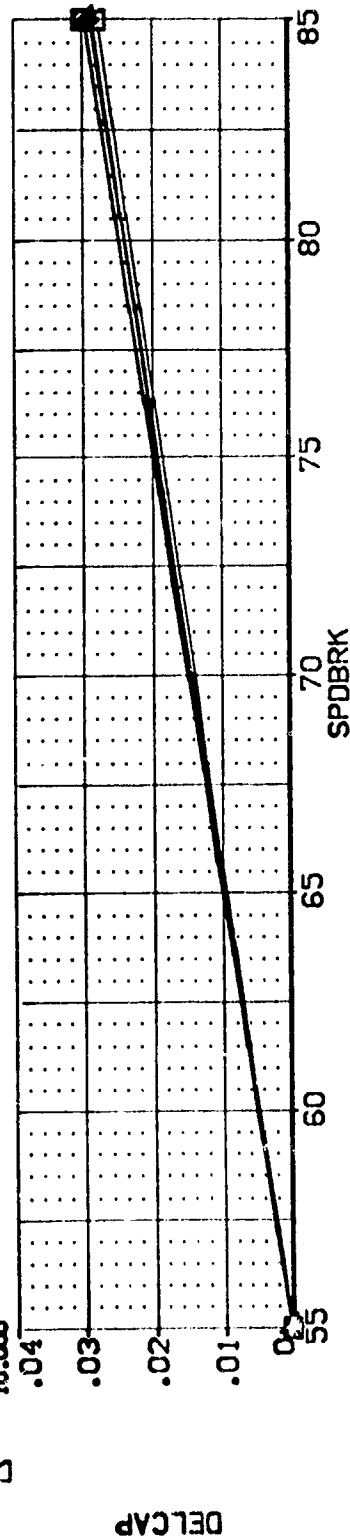
DATA SOURCE
SPOBRK
85.000

DATE	4.160	4.160
DATE	4.160	4.160

PARAMETRIC V	RL	EL	BE
1.202			
16.320			
- .670			
1.000			

0.000	MAC
2.000	BDF
4.000	AIL
6.000	CON
8.000	


 DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(P92112)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

REFERENCE INFORMATION
SREF 2741.8000
LREF 481.5480
BREF 936.7000
YREF 1081.3500
ZREF .0000
SCALE .0040

DATA SOURCE

.000 DATASET SPDBRK
4.150 P92112 65.000
.000

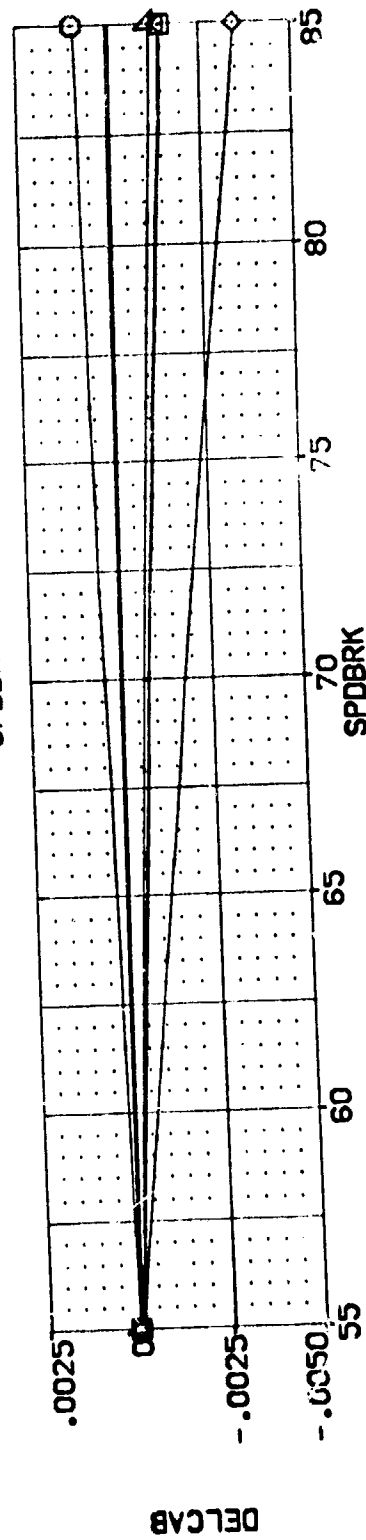
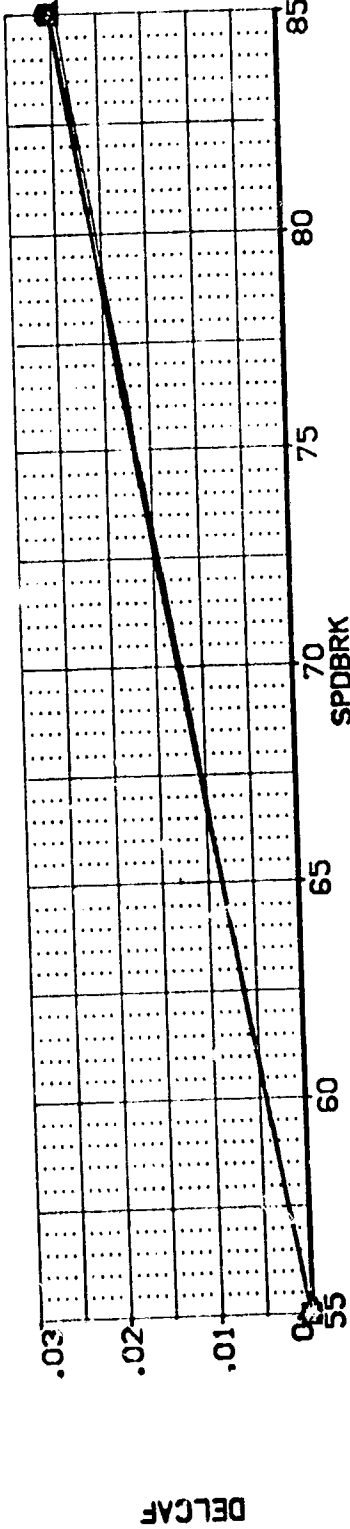
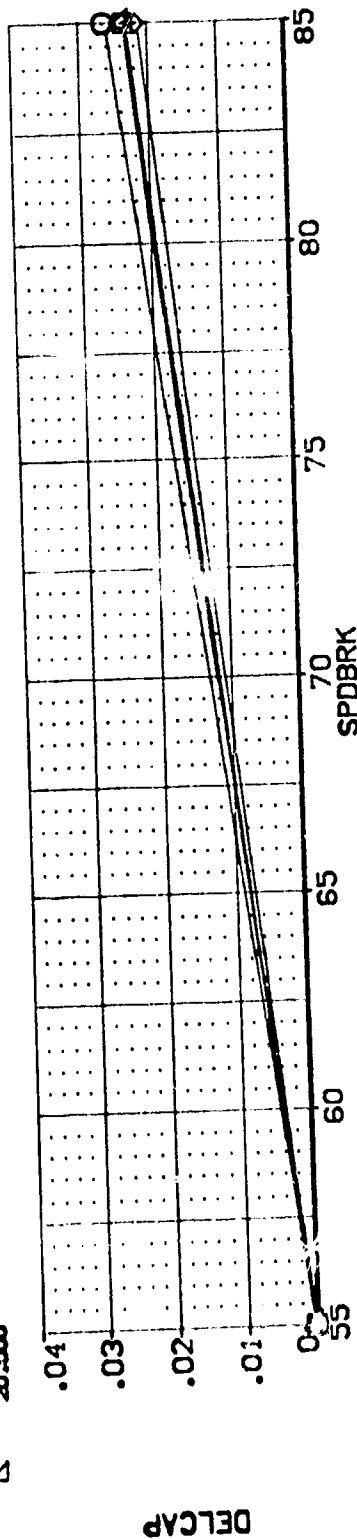
PARAMETRIC VALUES

1.202 RUDDER
16.300 ELEVTR
-.570 BETA

WACH
BOFLAP
AILRON
CONFTG

ALPHA
12.000
14.000
16.000
18.000
20.000

SYMBOL
▽
◇
□
○
△

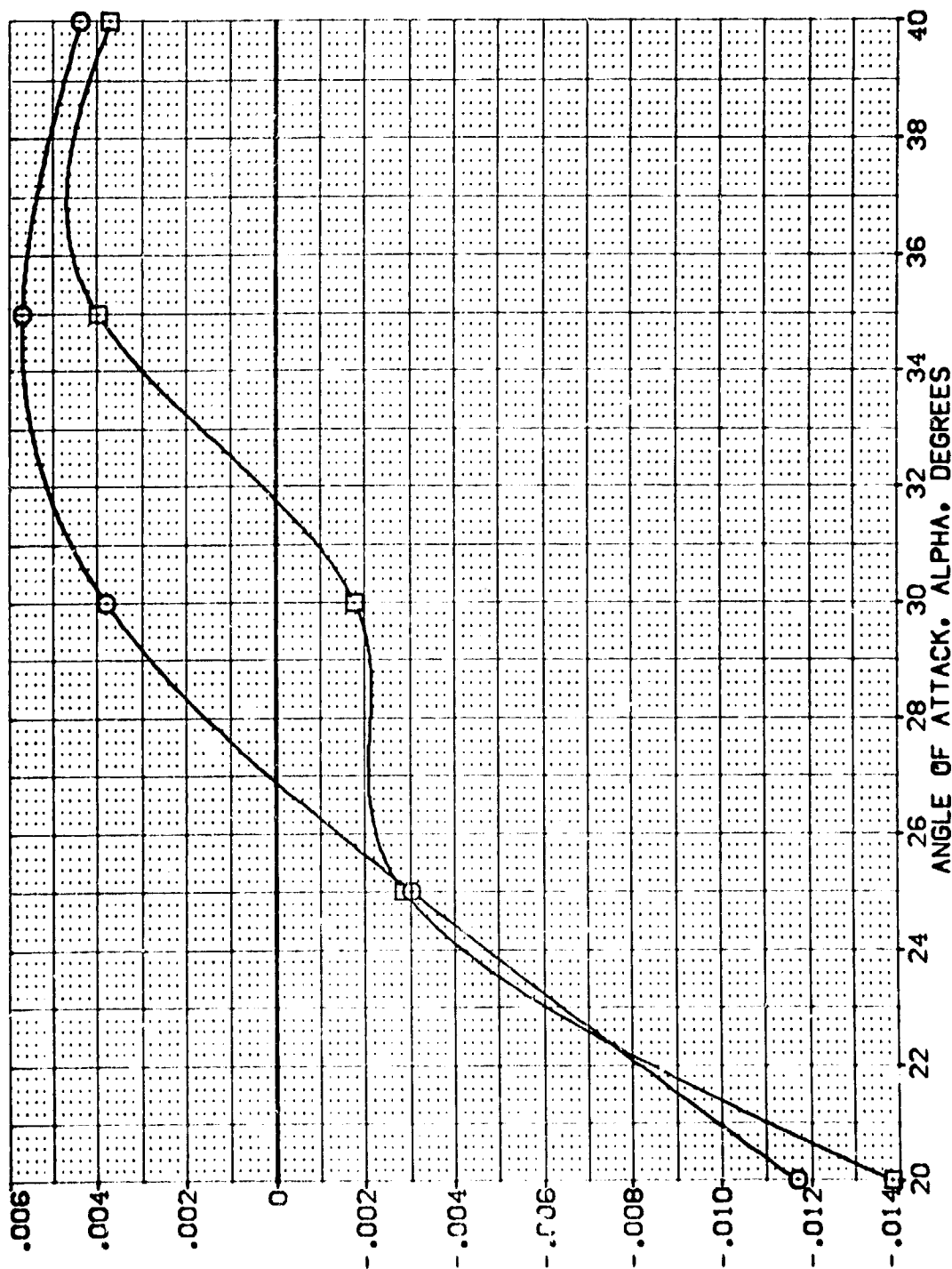


SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
{952119}	HSFC 501(OAS) DBB 34-0 (BDFH)(VE)(VR)
{952121}	HSFC 501(OAS) DBB 34-0 (BDFH)(VE)(VR)

SPOBEX	RUDER	BOFLAP	ELEVTR
25.000	.000	-11.700	4.160
65.000	.000	-11.700	4.160

REFERENCE INFORMATION		FT
9REF	2741.6000	92.
UREF	481.6480	IN.
9REF	936.7000	IN.
9REF	1081.3500	IN.
9REF	.0000	IN.
9REF	.0000	IN.
9REF	.0040	IN.
SCALE		



INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELTA CL

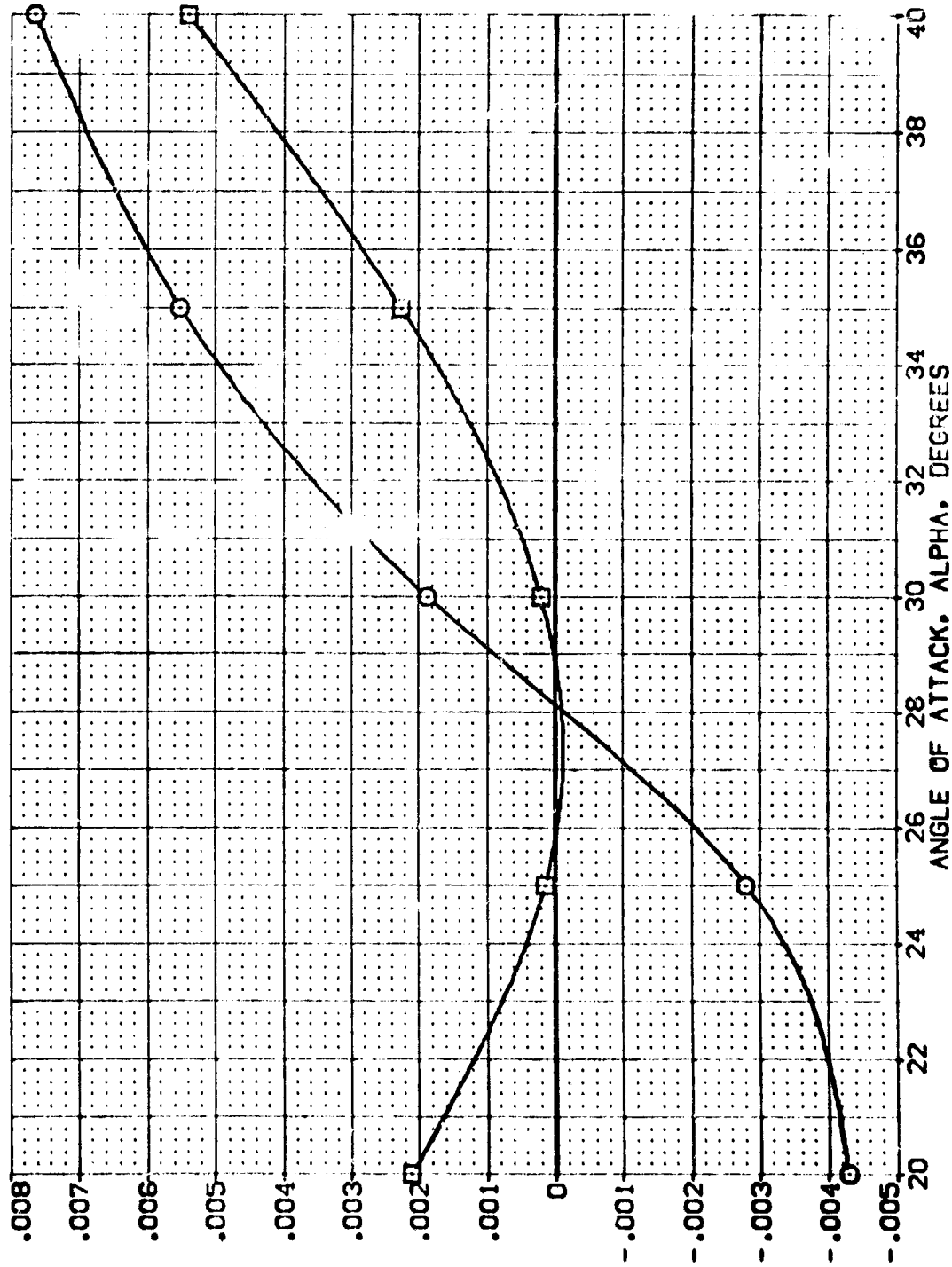
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

$$[A]_{MACH} = 4.96$$

DATA SEC SYMBOL CONFIGURATION DESCRIPTION
 {952119} □ H9TC 591(0449) 0RB 34-0 (BOTH)(VE)(VR)
 {952121} H9TC 591(0449) 0RC 34-0 (BOTH)(VE)(VR)

SPDBRK REL FLAP ELEVTR
 25.000 .000 -11.700 4.160
 65.000 .000 -11.700 4.160

REFERENCE INFORMATION
 SPREF 2741.8000 50. FT
 .REF 481.6482 IN.
 BRREF 336.7000 IN.
 XMRP 108.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

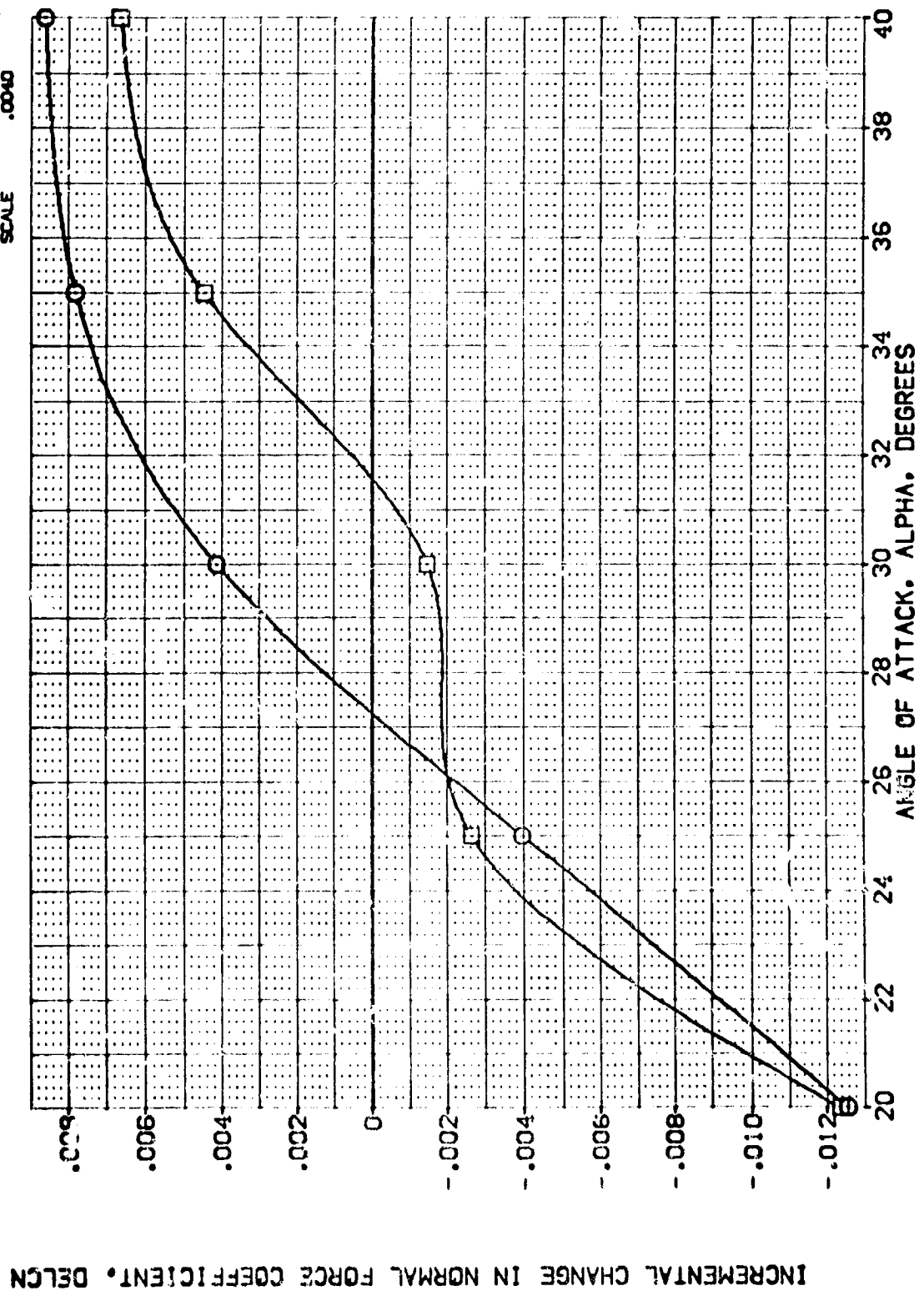


INCREMENTAL CHANGE IN DRAG COEFFICIENT, DELCD

SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = 4.96

DATA SET SYMBOL: 8
 CONFIGURATION DESCRIPTION: 808 34-0 (808H) (VE) (VR)
 808 34-0 (808H) (VE) (VR)
 REFERENCE INFORMATION:
 SREF: 2741.8000 80. FT
 LREF: 491.6480 IN.
 BREF: 536.7000 IN.
 XREF: 1001.3500 IN.
 YREF: 1000.0000 IN.
 ZREF: 1000.0000 IN.
 SCALE: .0040



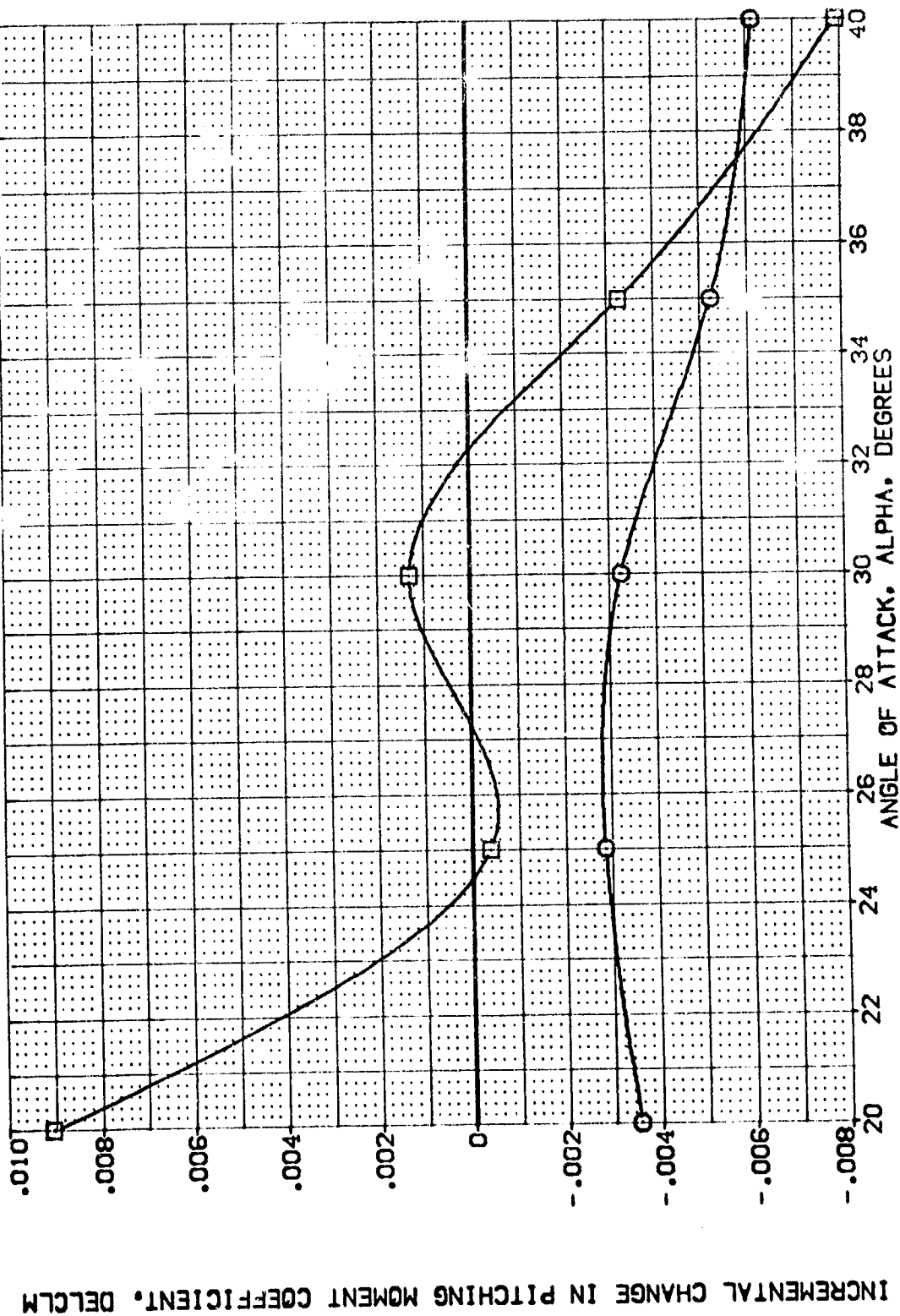
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 { 302119 } HPTC 501(0449) 078 34-0 (BDPH)(VE)(VR)
 { 302121 } HPTC 501(0449) 078 34-0 (BDPH)(VE)(VR)

SPDBRK 25.000
 65.000
 RUDDER .000
 .000
 BDCLAP -11.700
 -11.700
 ELEVTR 4.160
 4.160

REFERENCE INFORMATION FT
 SREF 2741.8000 SQ.
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.2000 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

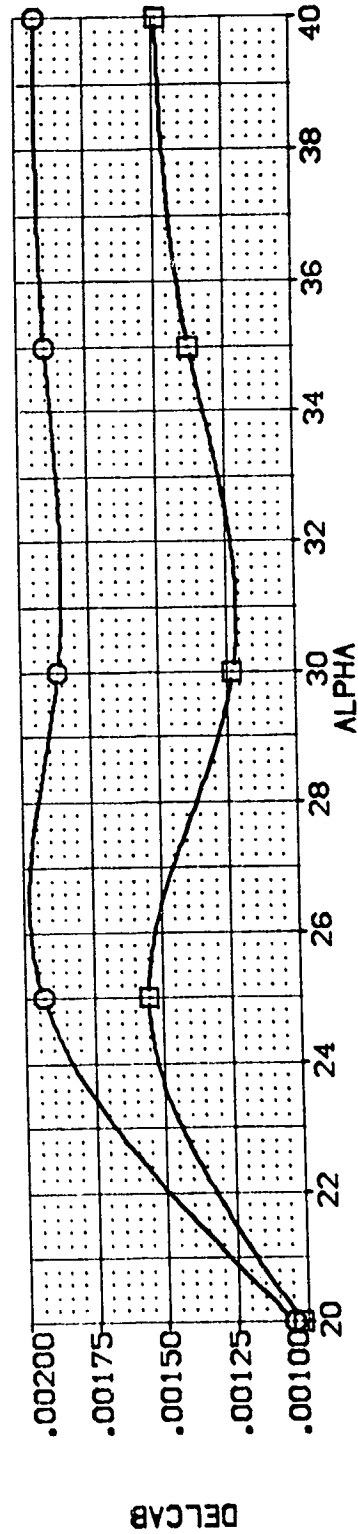
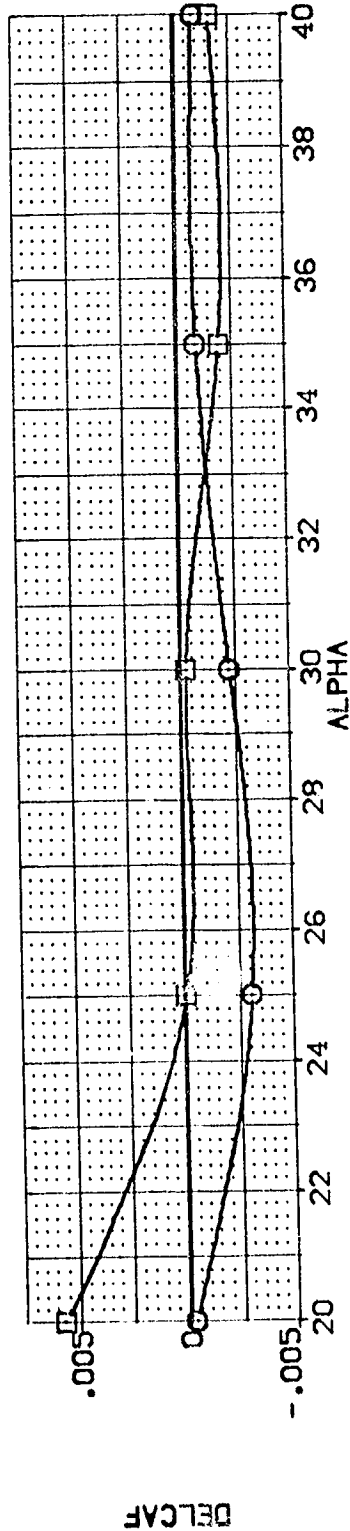
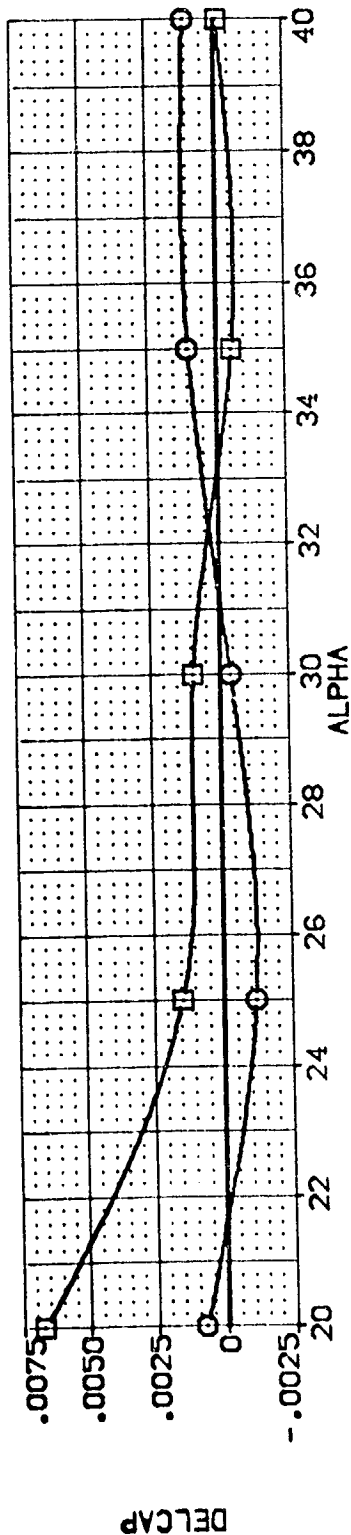


SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(M)MACH = 4.96

DATA SET SYMBOL: 8
 CONFIGURATION DESCRIPTION: MSFC 581(0419) 088 34-0 (BOTH)(VE)(VR)
 { 952119 }
 { 952121 }

SPDBRK RUDDER BDFLAP ELEVTR REFERENCE INFORMATION
 25.000 .000 -11.700 4.180
 65.000 .000 -11.700 4.180
 SREF 2741.8000 SQ. FT
 LREF 481.5480 IN.
 BREF 536.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

(A)MACH = 4.96

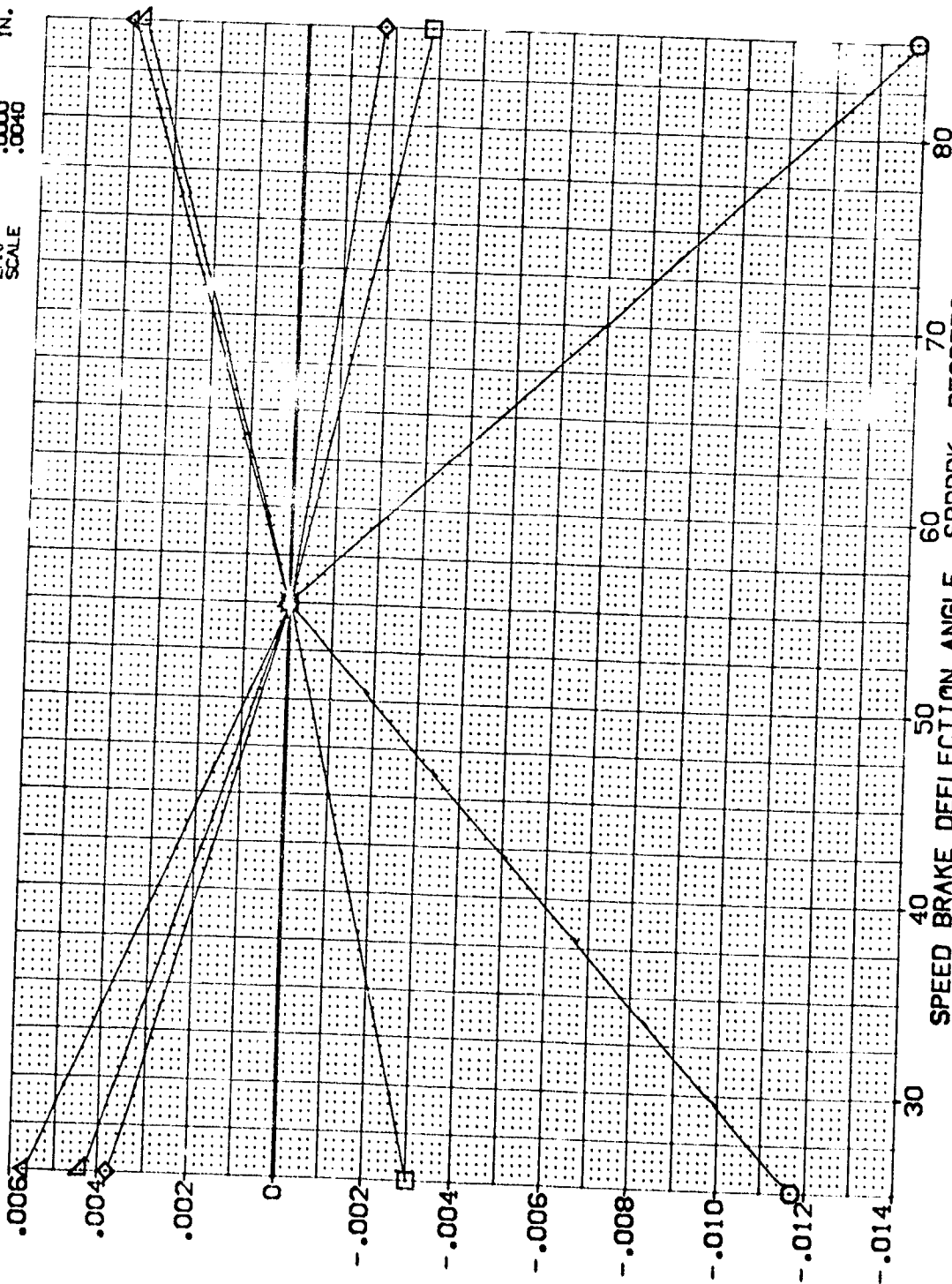
MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992119)

SYMBOL
 ○ □ ◇ △

PARAMETRIC VALUES
 ALPHA 20.000
 25.000
 30.000
 35.000
 40.000
 MACH 4.960
 RUDDER
 BOFLAP -11.700
 AILERON
 CONV16
 ELEVTR
 BETA
 1.000

DATA SOURCE
 SPDBRK .000
 DATASET 992119
 992121
 SPDBRK 25.000
 85.000

REFERENCE INFORMATION
 SREF 27.11 8000
 LREF 481.6430
 BREF 936.7000
 XTRP 1081.3900
 YTRP .0000
 ZTRP .0040
 SCALE
 SQ. FT
 IN.
 IN.
 IN.

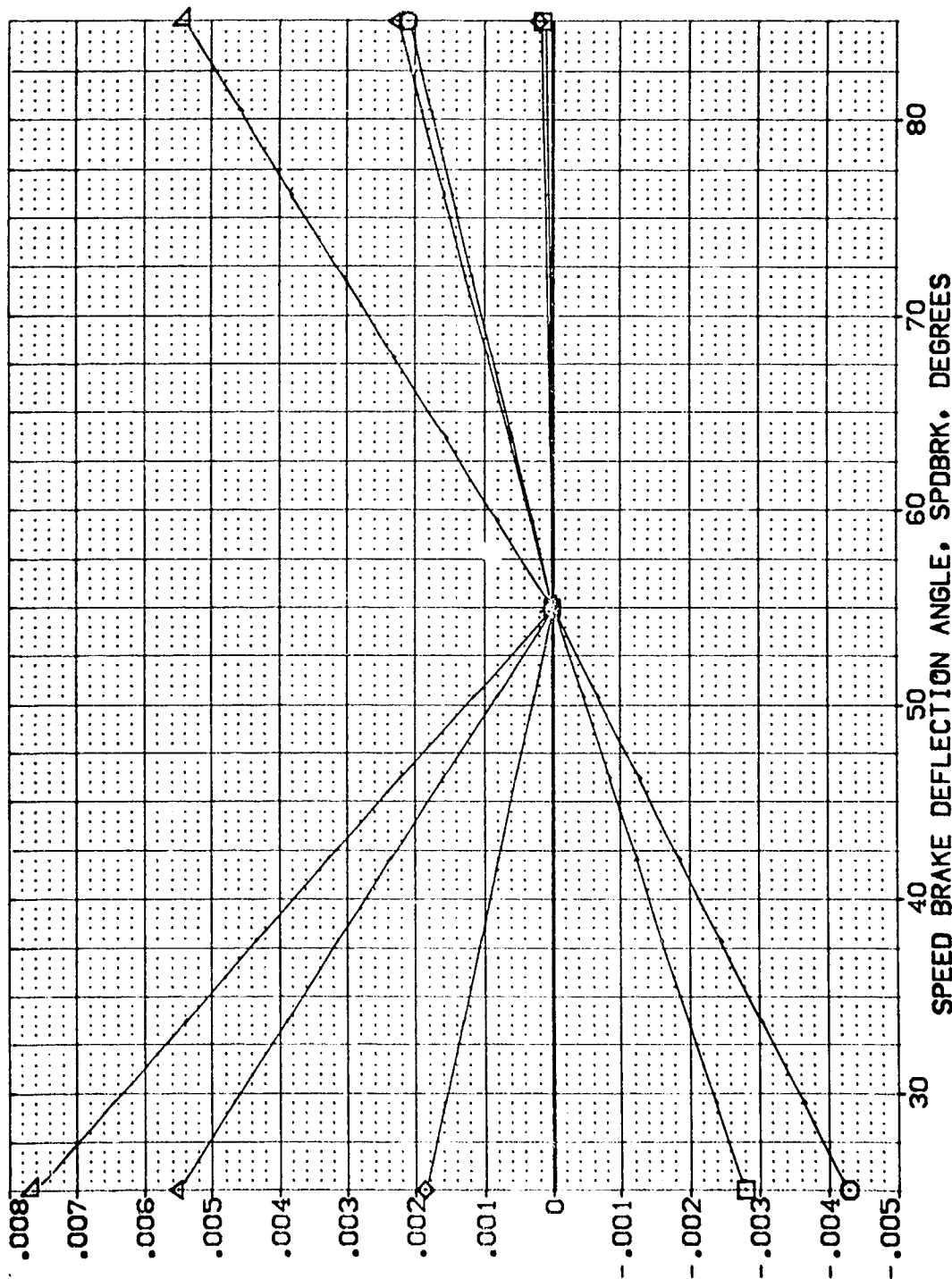


INCREMENTAL CHANGE IN LIFT COEFFICIENT, DELCL

SPEED BRAKE DEFLECTION ANGLE, SPDBRK, DEGREES
 SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992119)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	□	◇	△	SPDBRK	SPDBRK	SREF	SO: FT
20.000	MACH	4.560	RUDDER	.000	DATASET	99A-04	2741.8000
25.000	BDFLAP	-11.700	ELEVTR	4.160	992119	25.000	481.6480
30.000	AILRON	-.570	BETA	.000	992121	65.000	536.7500
35.000	CONF16	1.000					1081.3500
40.000							.0000
							.0000
							.0040
							SCALE



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992119)

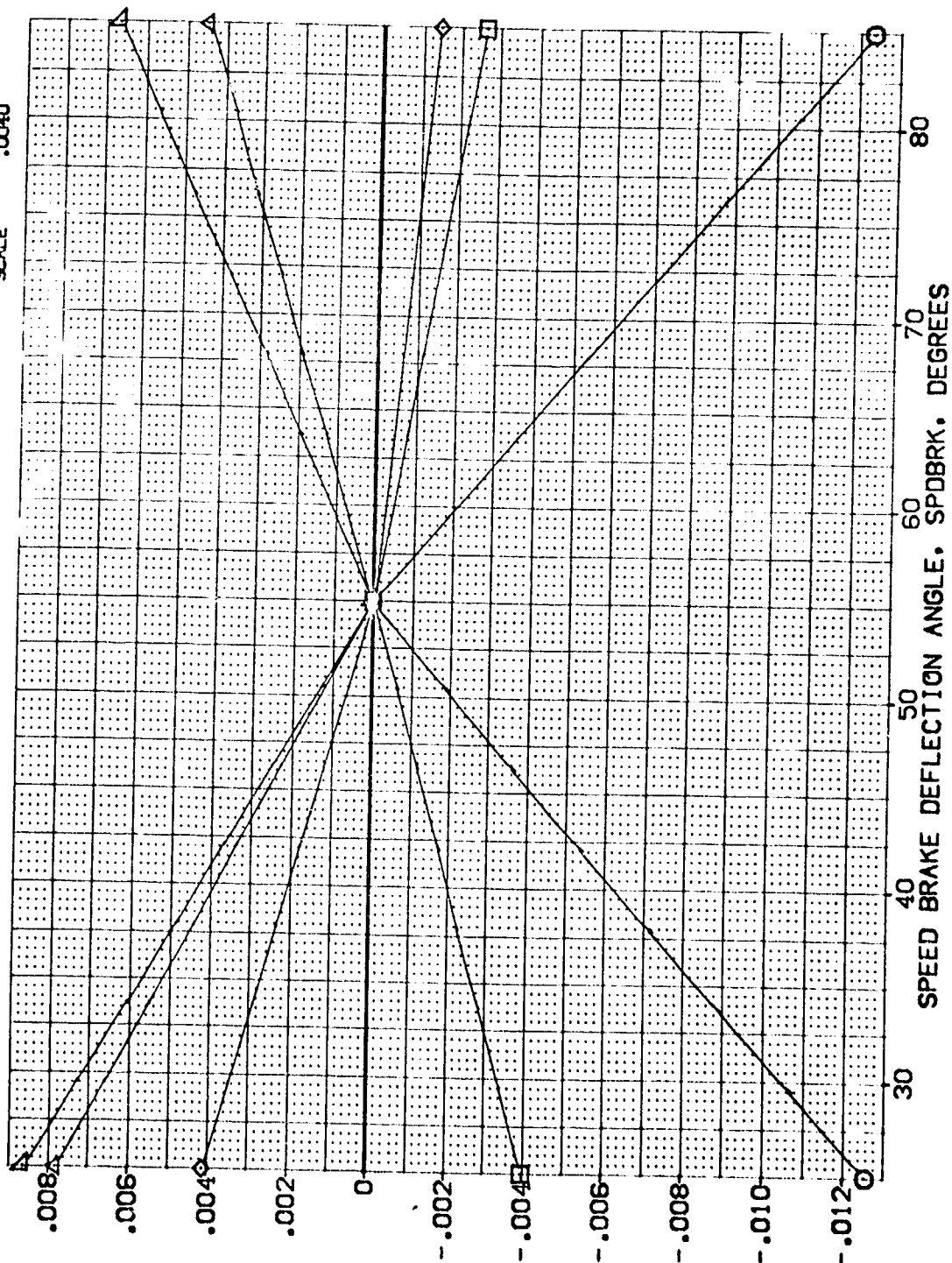
SYMBOL
 20.000
 25.000
 30.000
 35.000
 40.000

PARAMETRIC VALUES
 MACH 4.960
 RUDDER -11.700
 ELEVTR -6.670
 BETA 1.000

DATA SOURCE
 SPDBRK .000
 DATASET 992119
 SPDBRK 25.000
 DATASET 992121
 SPDBRK 65.000

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 491.6480
 BREF 935.7000
 XTRP 1081.3500
 YTRP .0000
 ZTRP .0000
 SCALE .0040

INCREMENTAL CHANGE IN NORMAL FORCE COEFFICIENT, DELCN

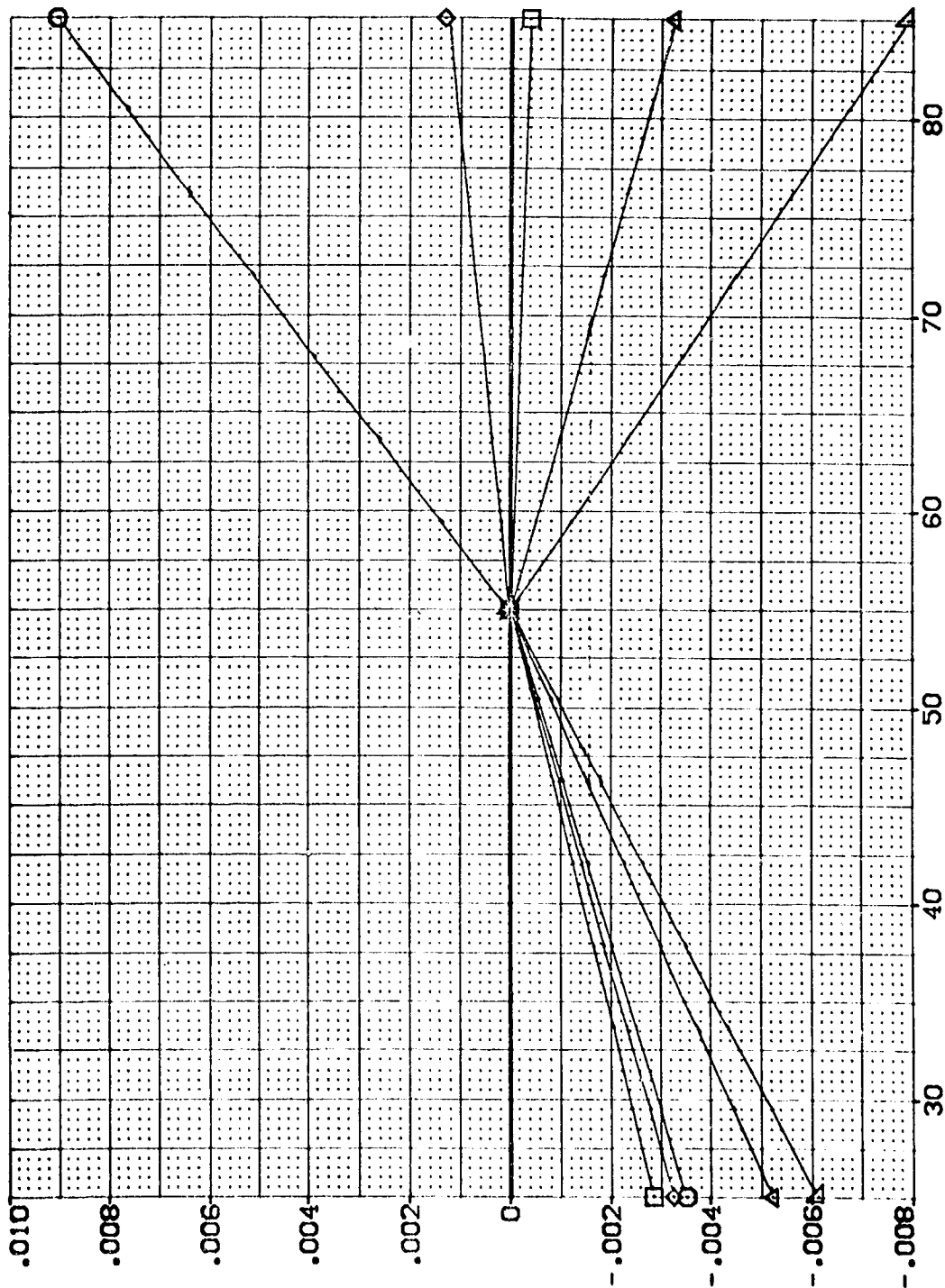


SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992119)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA		MACH	4.960	RUDER		SREF	2741.8000
20.000	□	BDFLAP	-11.700	ELEVTR		LREF	481.5480
25.000	◇	AILRON	-6.670	BETA		BREF	936.7000
30.000	△	CONFIG	1.000			XREF	1081.3500
35.000	▽					YREF	.0000
40.000						ZREF	.0000
						SCALE	.0040

INCREMENTAL CHANGE IN PITCHING MOMENT COEFFICIENT, DELCLM



SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

(992119)

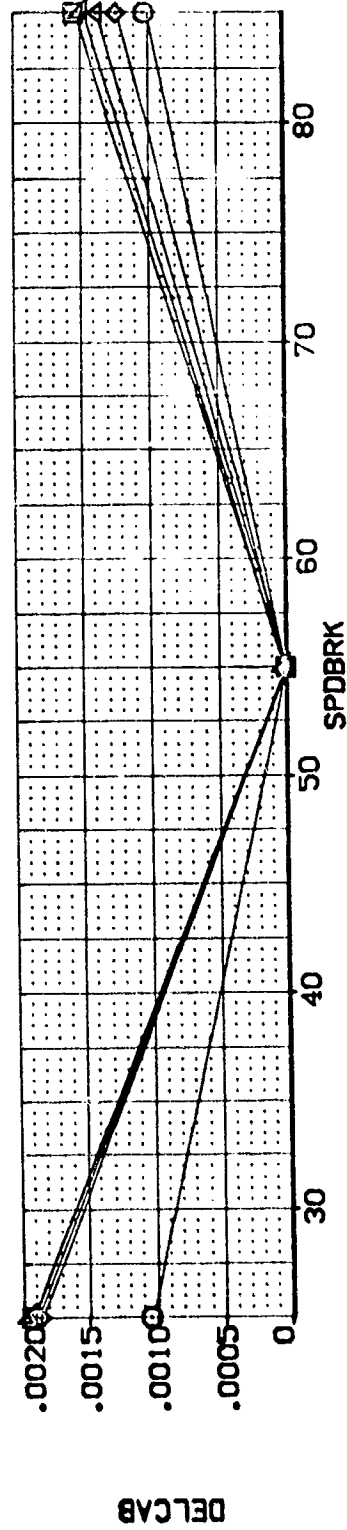
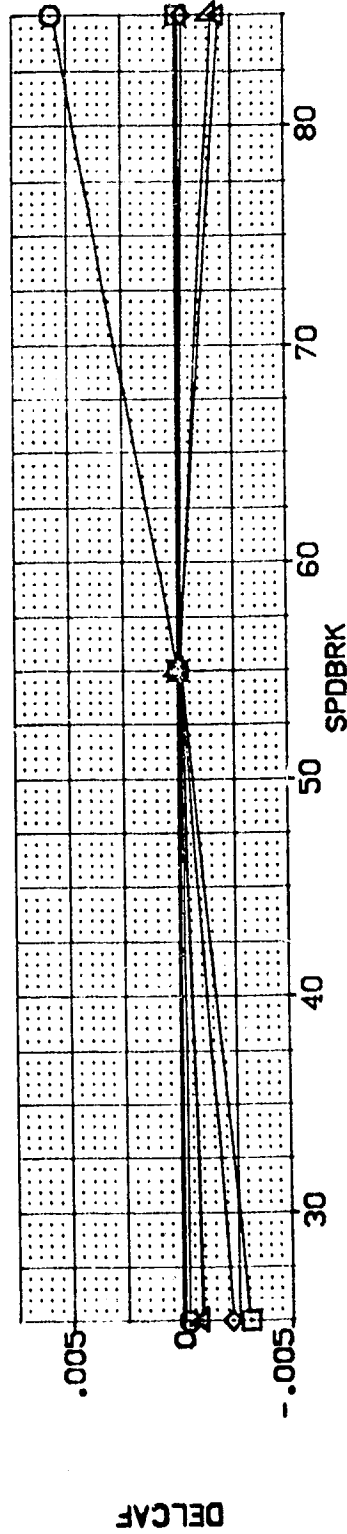
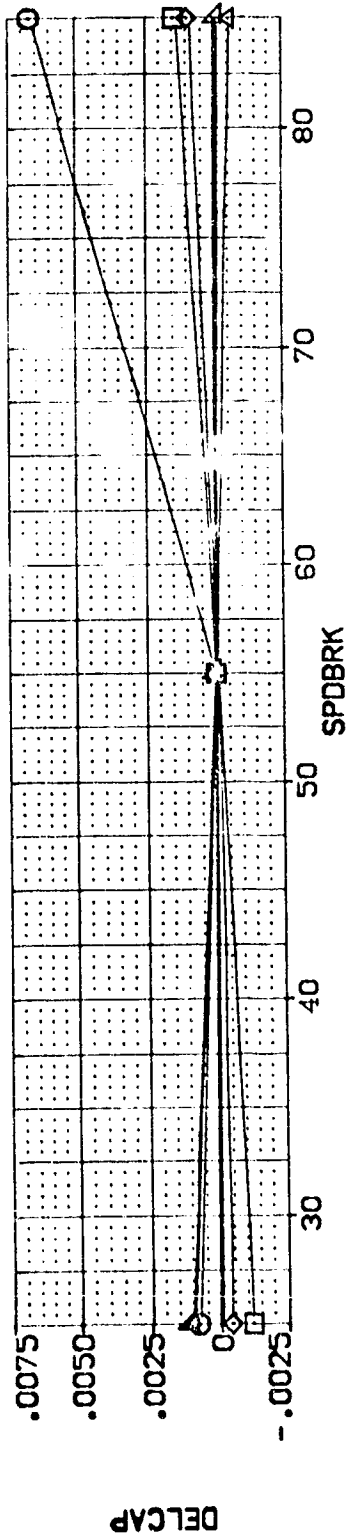


ALPHA	PARAMETRIC VALUES
20,000	4.550 RUDDER
25,000	-11.700 ELEVTR
30,000	-.670 BETA
35,000	1.000
40,000	

	DATA SOURCE
.000	SP0BRK
4.160	992119
.000	992121

T	SPOBRK	SREF
	55.000	LREF
		BREF
		XMRP
		YMRP
		ZMRP
		SCALE

REFERENCE INFORMATION	SQ.	FT
2741.8.00	IN.	
48.6480	IN.	
936.7000	IN.	
1081.3900	IN.	
.0000	IN.	
.0000	IN.	
.0040	IN.	



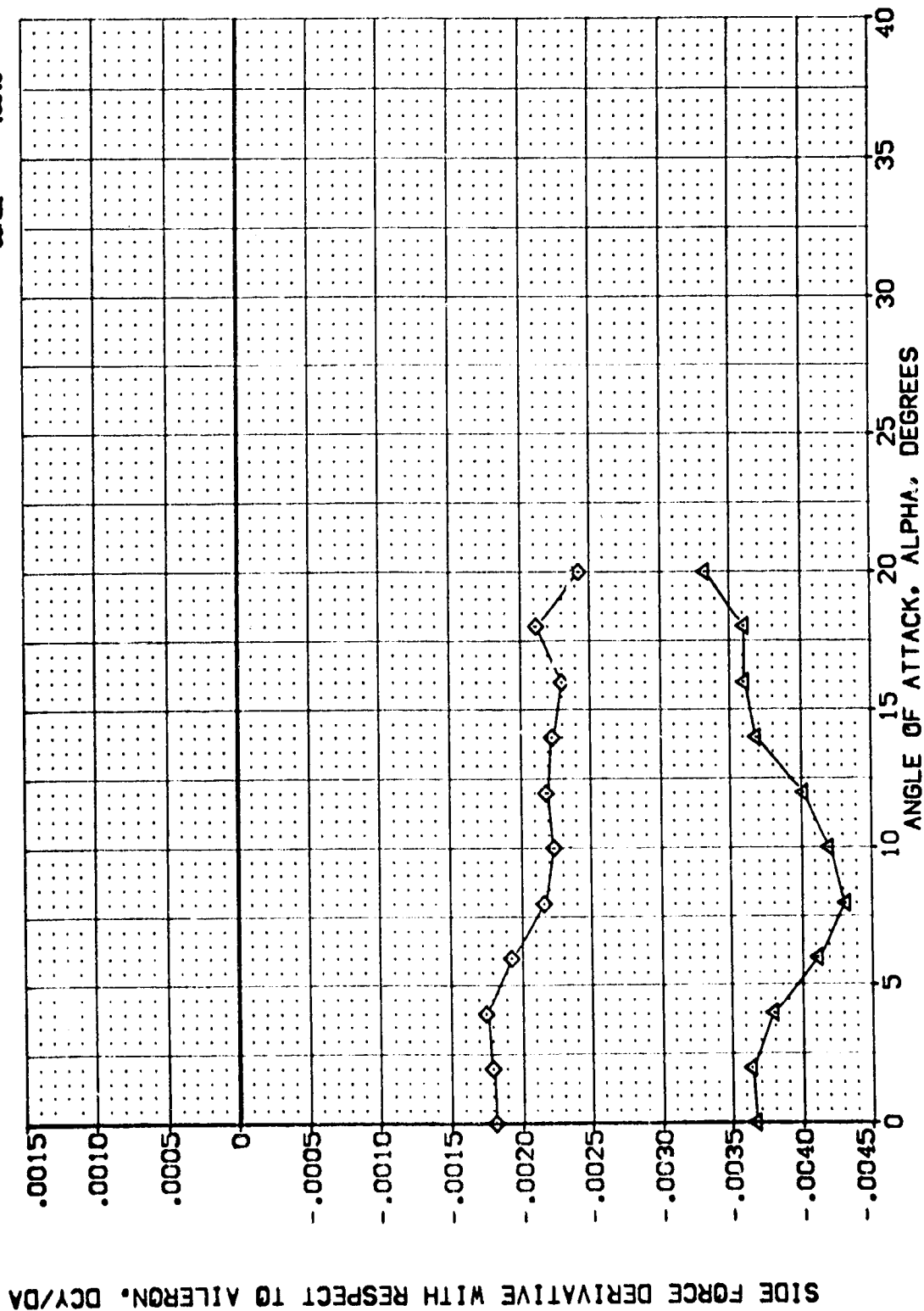
SPEED BRAKE EFFECTIVENESS (INC. FROM 55 DEGREE SPDBRK)

[illegible]

(P20091)	DATA NOT AVAILABLE	34-0 (BOFH)(VE)(VR)
(P20093)	DATA NOT AVAILABLE	34-0 (BOFH)(VE)(VR)
(P20095)	DATA NOT AVAILABLE	34-0 (BOFH)(VE)(VR)
(P20097)	DATA NOT AVAILABLE	34-0 (BOFH)(VE)(VR)
(P20099)	DATA NOT AVAILABLE	34-0 (BOFH)(VE)(VR)

DELARN	ELEVTR	BOFLAP	990BRK
8,940	-24,640	-11,700	25,550
9,730	-14,270	-11,700	25,550
9,550	-5,800	-11,700	25,550
8,750	4,400	-11,700	25,550
3,730	12,040	-11,700	25,550

REFERENCE INFORMATION		SQ. FT
REF	2741.8000	IN.
REF	481.6480	IN.
REF	936.7000	IN.
REF	1081.3500	IN.
REF	.0000	IN.
REF	.0000	IN.
REF	.0040	IN.



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
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98	...
99	...
100	...

DATA NOT AVAILABLE	DATA NOT AVAILABLE
DATA NOT AVAILABLE	DATA NOT AVAILABLE

MSFC 531(0A49) 05B 34-0 (BDFH)(VE)(VR)
MSFC 531(0A49) 05B 34-0 (BDFH)(VE)(VR)
DATA NOT AVAILABLE

DELARN ELEVTR BDFLAP SPJBRK

ELEVTR	80FLAP
24 548	11 700

24,640	-11,700
14,270	-11,700

5,830 -11,700
4,400 -11,700

12.040 -11.700

REFERENCE INFORMATION

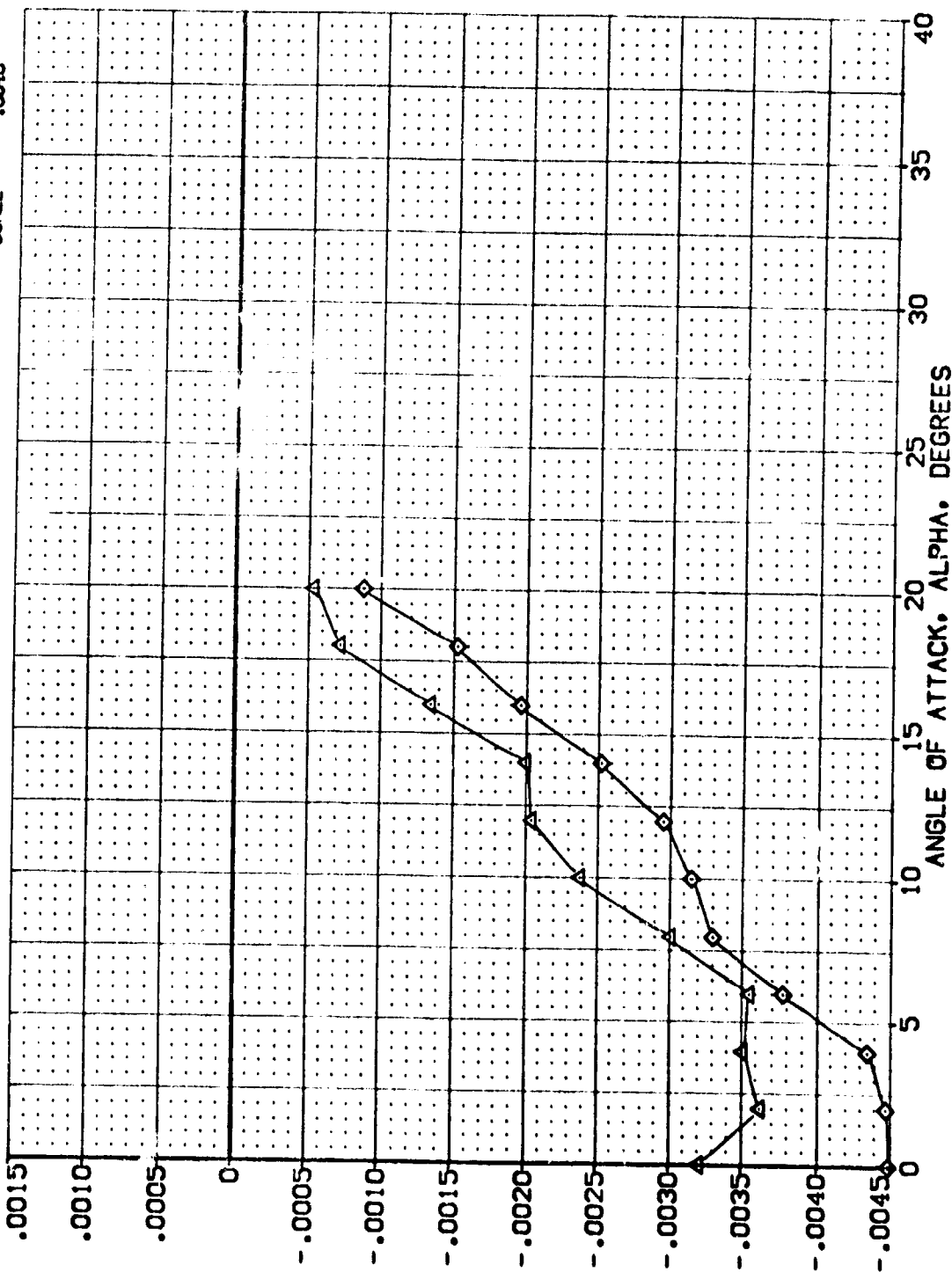
EF	2741.8000	SD:
EF	491.6480 <th>IN:</th>	IN:

936.7000
1081.3900

zzz
888
888
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FILE
0040
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SCALE

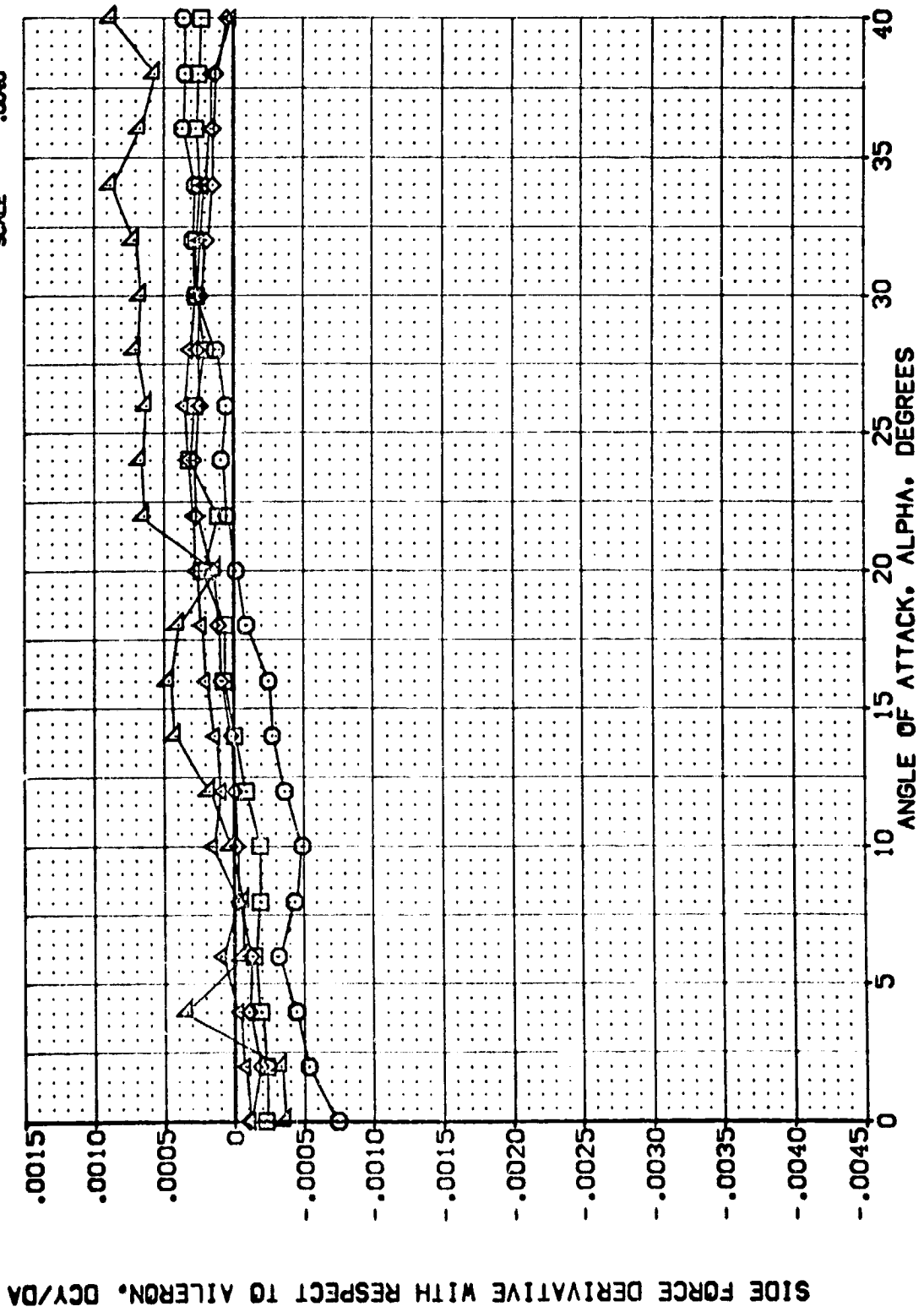


AILERON EFFECTIVENESS

(B)MACH = .90

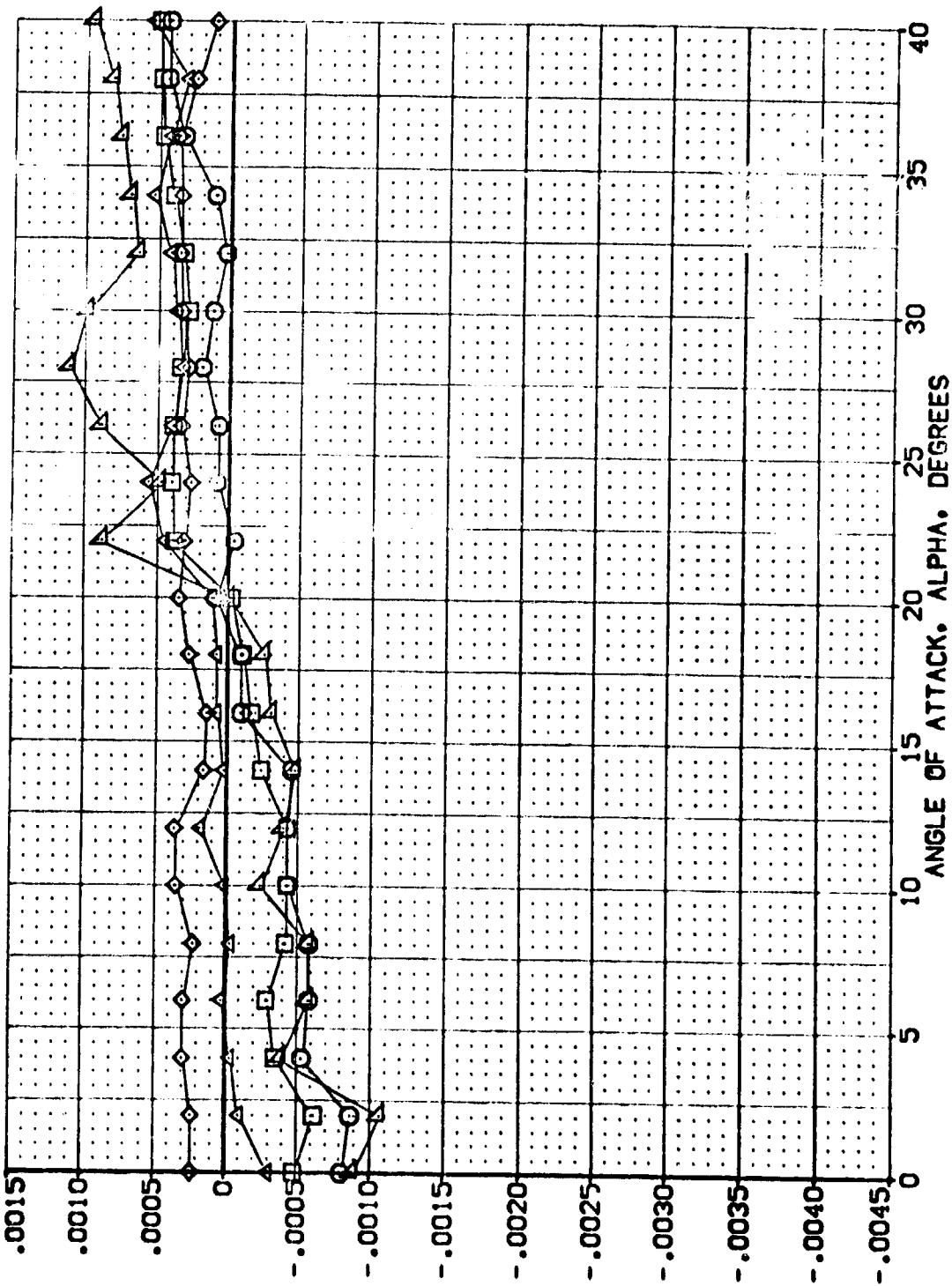
DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA IN	ELEV IN	BOFLAP	SPURK	REFERENCE INFORMATION
PS2091	MSFC 501(045) 023 34-0 (BOFH)(VE)(VR)	8.940	-24.640	-11.700	25.550	REF 2741.8000
PS2092	MSFC 501(045) 023 34-0 (BOFH)(VE)(VR)	9.730	-14.270	-11.700	25.550	LREF 481.6480
PS2093	MSFC 501(045) 023 34-0 (BOFH)(VE)(VR)	9.950	-5.600	-11.700	25.550	BREF 936.7000
PS2094	MSFC 501(045) 023 34-0 (BOFH)(VE)(VR)	9.750	4.400	-11.700	25.550	XREF 1081.3500
PS2095	MSFC 501(045) 023 34-0 (BOFH)(VE)(VR)	3.730	12.040	-11.700	25.550	YREF .0000
						ZREF .0000
						SCALE .0040



SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA	ELEV	BOFLAP	SPDRK	REFERENCE INFORMATION
{PZ001}	HSC 331(DA45) 088 34-0 (BDH)(VE)(VR)	8.940	-24.640	-11.700	25.550	SREF 2741.8000
{PZ003}	HSC 331(DA45) 088 34-0 (BDH)(VE)(VR)	8.750	-14.270	-11.700	25.550	LREF 481.6480
{PZ005}	HSC 331(DA45) 088 34-0 (BDH)(VE)(VR)	8.950	-5.820	-11.700	25.550	BREF 906.7000
{PZ007}	HSC 331(DA45) 088 34-0 (BDH)(VE)(VR)	8.750	4.400	-11.700	25.550	XREF 1021.3200
{PZ009}	HSC 331(DA45) 088 34-0 (BDH)(VE)(VR)	3.750	12.040	-11.700	25.550	YREF .0000
						ZREF .0000
						SCALE .0040

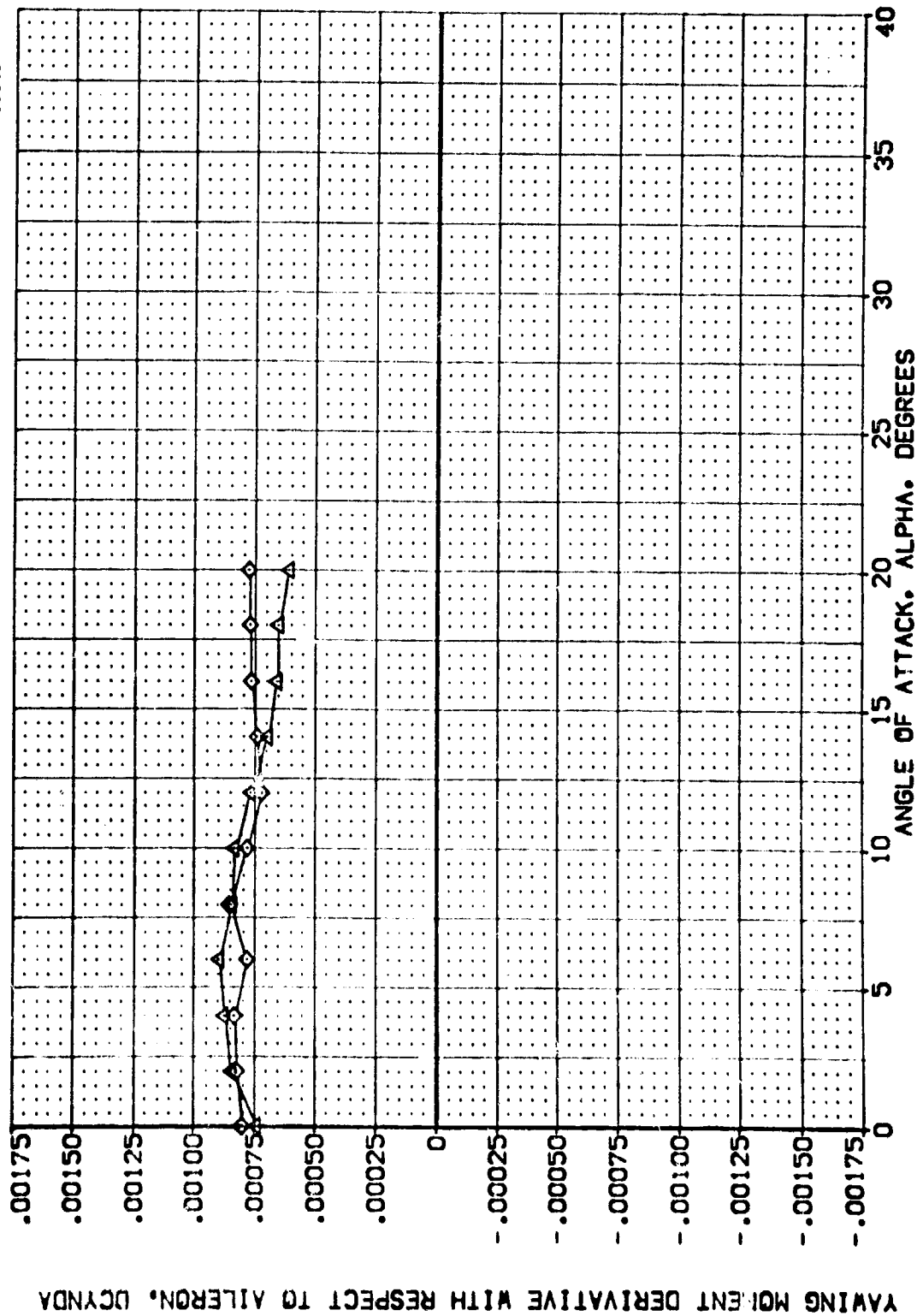


AILERON EFFECTIVENESS

(C)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {PZ0081} DATA NOT AVAILABLE
 {PZ0082} DATA NOT AVAILABLE
 {PZ0083} MSC 581 (DA45) 018 34-0 (BDPH)(VE)(VR)
 {PZ0087} MSC 581 (DA45) 018 34-0 (BDPH)(VE)(VR)
 {PZ0088} DATA NOT AVAILABLE

DELTA ELEVTR BOFLAP SPDRK REFERENCE INFORMATION
 8.840 -24.640 -11.700 25.550 SREF 2741.8000 50. FT
 9.730 -14.270 -11.700 25.550 LREF 481.6480 IN.
 9.950 -5.830 -11.700 25.550 BREF 936.7000 IN.
 8.750 4.400 -11.700 25.550 XPRP 1081.3500 IN.
 3.730 12.040 -11.700 25.550 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



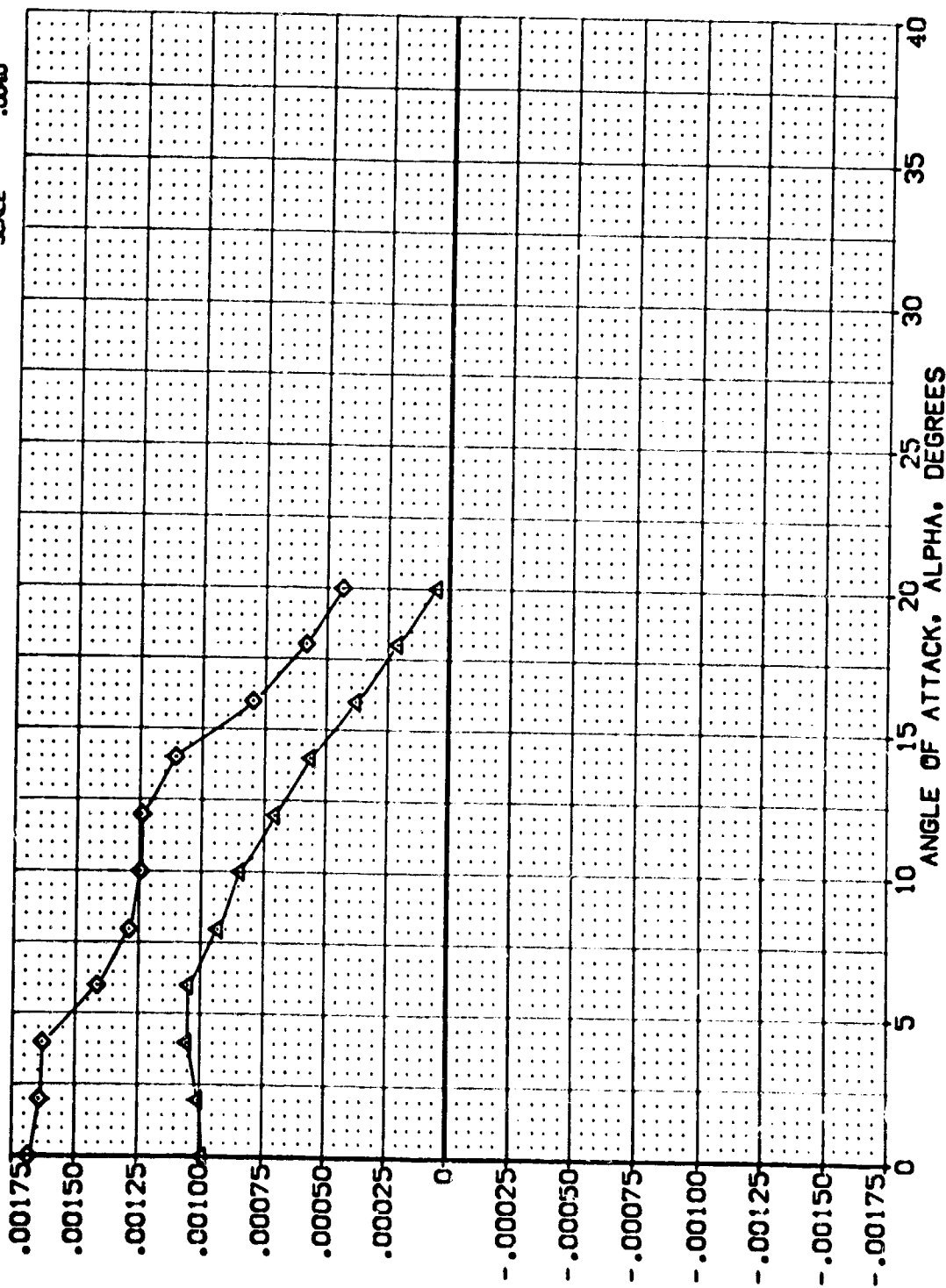
AILERON EFFECTIVENESS

(A)MACH = .59

CONFIGURATION	DESCRIPTION
DATA NOT AVAILABLE	
DATA NOT AVAILABLE	
MSFC S31(OAS) C8B	34-0 (BDFN)(VE)(VR)
MSFC S31(OAS) C8B	34-0 (BDFN)(VE)(VR)
DATA NOT AVAILABLE	

DELAIN	ELEVTR	BOFLAP	S'DBRK
9.940	-24.540	-11.700	25.550
9.730	-14.270	-11.700	25.550
9.550	-5.830	-11.700	25.550
9.750	4.400	-11.700	25.550
3.730	12.040	-11.700	25.550

REFERENCE INFORMATION	
	SO. FT
SREF	2741.8000
LREF	481.6480
BREF	536.7000
XREF	1081.3500
YREF	0.0000
ZREF	0.0000
SCALE	.0040



YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYND4

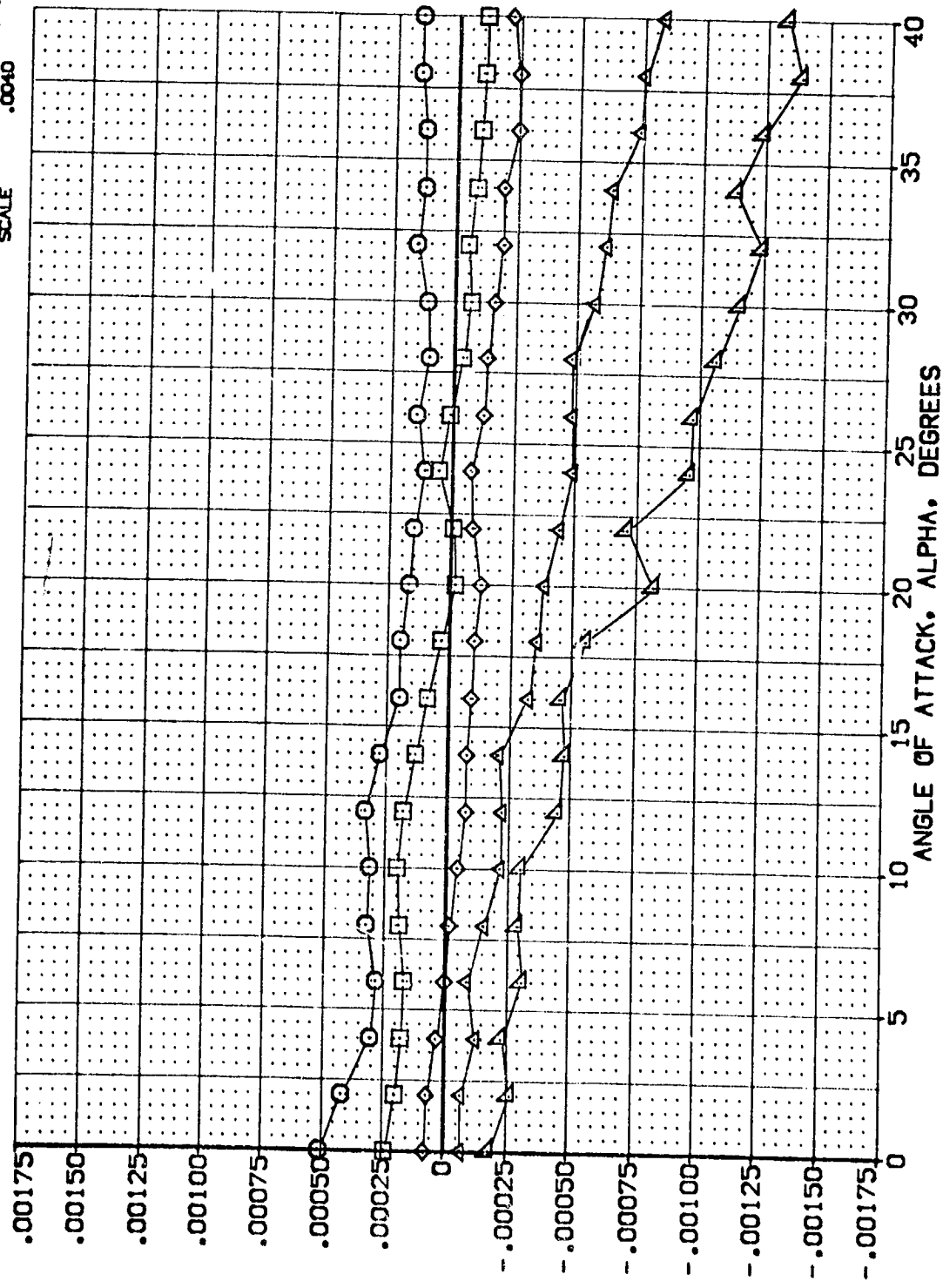
AILERON EFFECTIVENESS

$$C(V)MCH = .90$$

PAGE 738



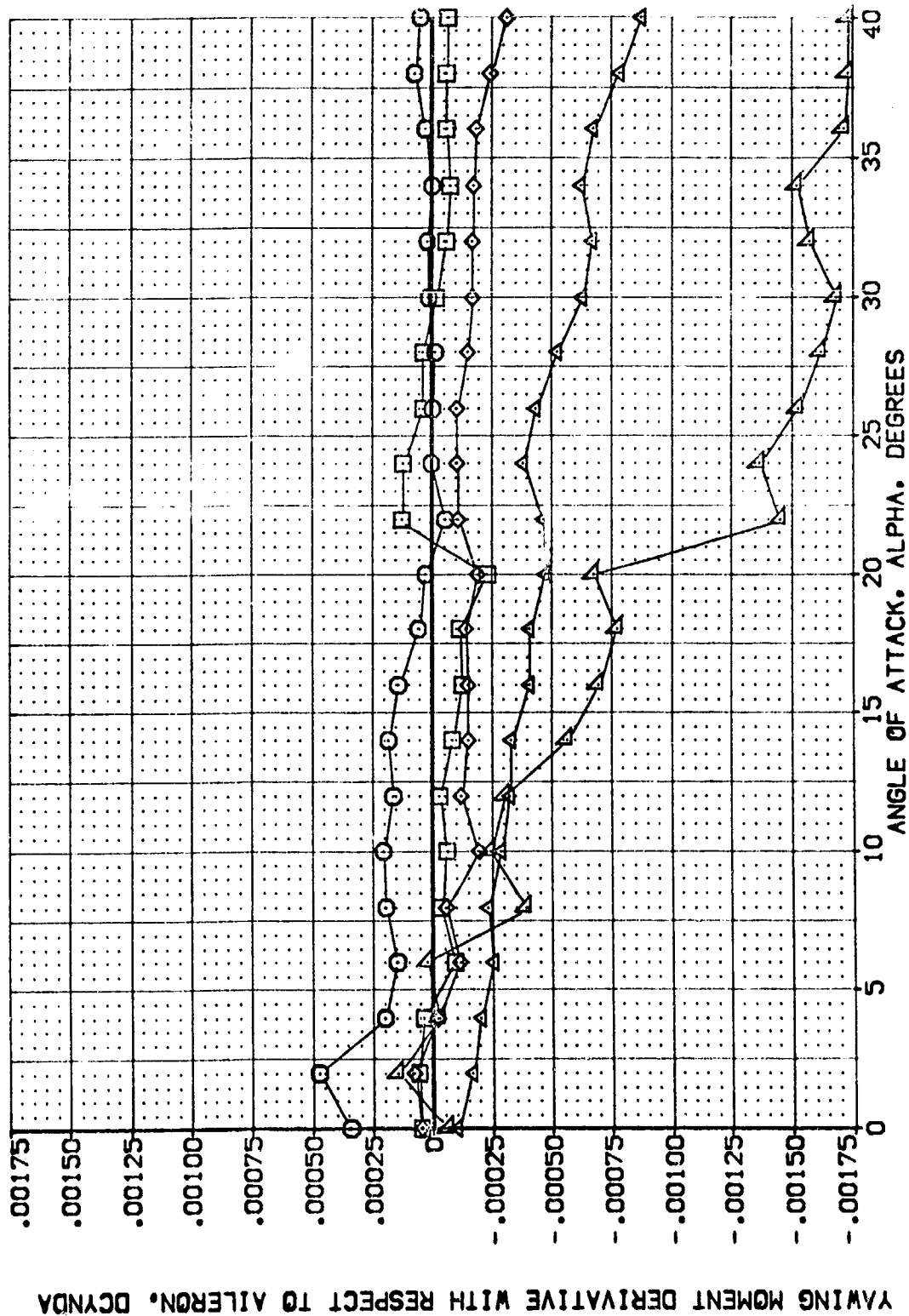
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA	ELEVTR	BDFLAP	SPDRBK	REFERENCE INFORMATION	
(P20051)	HSTC 531(CA49) CRB 34-0 (BD-H)(VE)(VR)	8.940	-24.640	-11.700	25.550	SRF	2741.8000 SQ. FT
(P20053)	HSTC 531(CA49) CRB 34-0 (BD-H)(VE)(VR)	9.730	-14.270	-11.700	25.550	LREF	481.6480 IN.
(P20055)	HSTC 531(CA49) CRB 34-0 (BD-H)(VE)(VR)	9.550	-5.830	-11.700	25.550	BREF	836.7000 IN.
(P20057)	HSTC 531(CA49) CRB 34-0 (BD-H)(VE)(VR)	8.750	4.400	-11.700	25.550	XREF	1081.3500 IN.
(P20059)	HSTC 531(CA49) CRB 34-0 (BD-H)(VE)(VR)	3.730	12.040	-11.700	25.550	YREF	.0000 IN.
						ZREF	.0000 IN.
						SCALE	.0040



AILERON EFFECTIVENESS

(C)MACH = 2.99

DELARN	ELEV'R	BOFLAP	SFOBRK	REFERENCE INFORMATION
8.940	-24.640	-11.700	SREF	2741.8000
9.730	-14.270	-11.700	LREF	481.6480
9.950	-5.830	-11.700	SREF	936.7000
8.750	4.400	-11.700	XREF	.381.3600
3.730	12.040	-11.700	YREF	.0000
			ZREF	.0000
			SCALE	.0040



AILERON EFFECTIVENESS

CD)MACH = 4.96

DATA SET SYMBOL

PS2031

PS2033

PS2035

PS2037

PS2069

DATA NOT AVAILABLE

DATA NOT AVAILABLE

PSFC 531(0A49) OF 34-0 (BOTH)(VE)(VR)

PSFC 531(0A49) OF 34-0 (BOTH)(VE)(VR)

DATA NOT AVAILABLE

CONFIGURATION DESCRIPTION

DATA NOT AVAILABLE

DATA NOT AVAILABLE

34-0 (BOTH)(VE)(VR)

34-0 (BOTH)(VE)(VR)

DATA NOT AVAILABLE

DELTA

8.940

9.730

9.550

8.750

3.730

ELEVTR

-24.640

-14.270

-5.630

4.400

12.040

BOFLAP

-11.700

-11.700

-11.700

-11.700

-11.700

SPOBRK

25.550

25.550

25.550

25.550

25.550

REFERENCE INFORMATION

SREF

2741.8000

90. FT

LREF

481.6480

IN.

BREF

936.7000

IN.

XMRP

1081.3800

IN.

YMRP

.0000

IN.

ZMRP

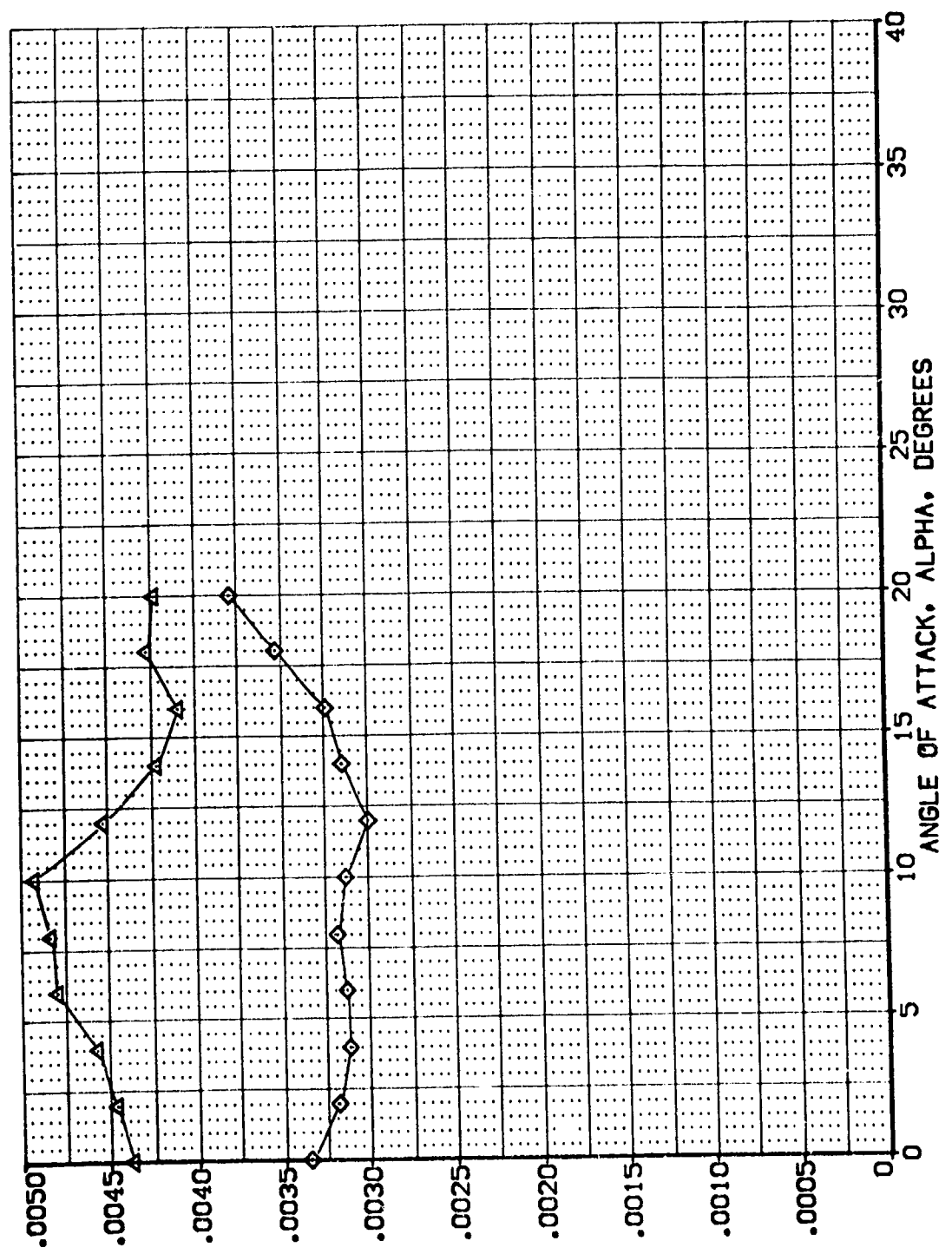
.0000

IN.

SCALE

.0040

ROLLING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCBLDA

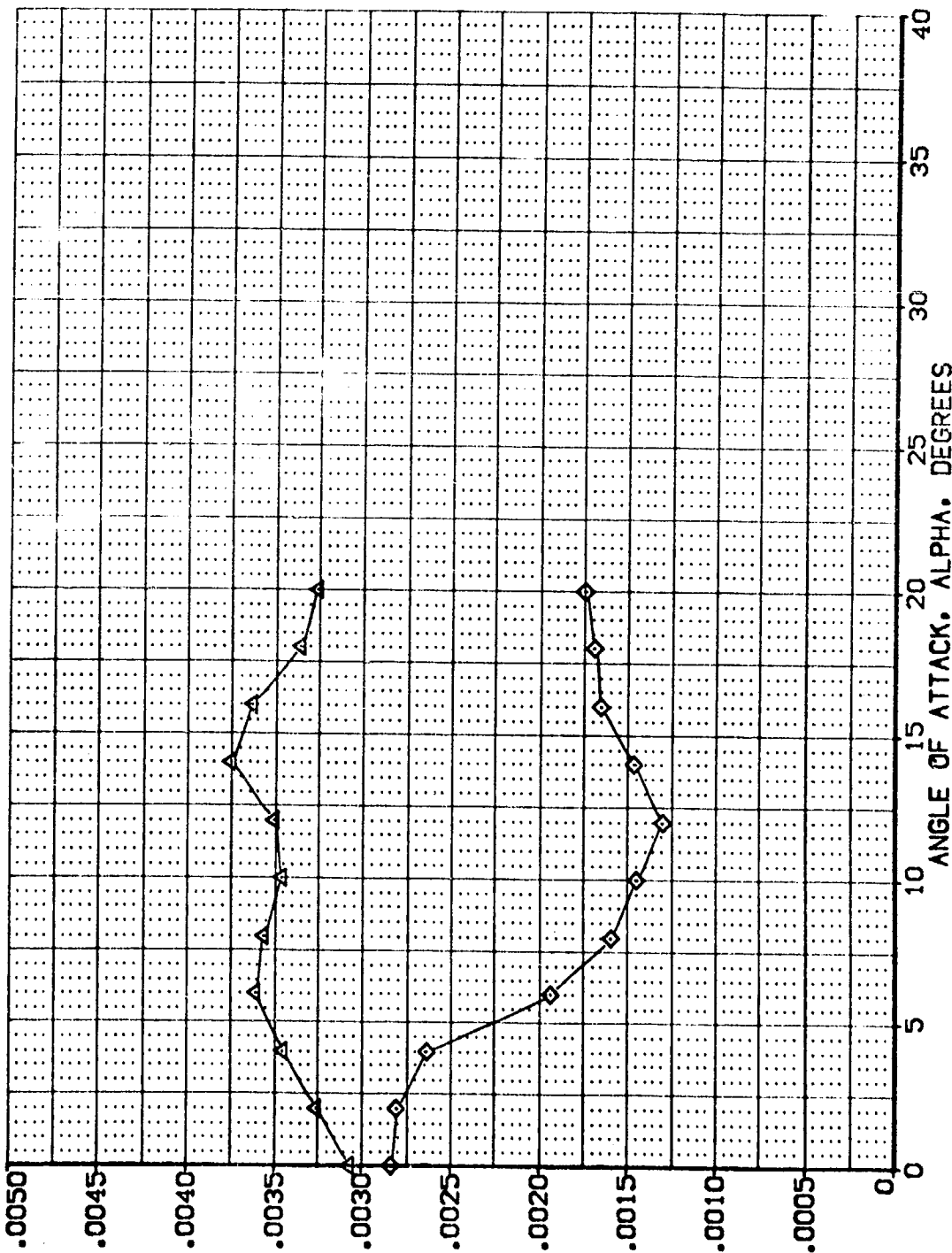


AILERON EFFECTIVENESS

(A)MACH = .59

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {P20051} DATA NOT AVAILABLE
 {P20053} DATA NOT AVAILABLE
 {P20055} HSC 531 (DA49) 058 34-0 (BOFH) (VE) (VR)
 {P20057} HSC 531 (DA49) 072 34-0 (BOFH) (VE) (VR)
 {P20059} DATA NOT AVAILABLE

DELTA ELEVTR BOFLAP SPDRK REFERENCE INFORMATION
 8.940 -24.64C -11.700 25.550 SREF 2741.8000 50. FT
 9.730 -14.270 -11.700 23.550 LREF 481.6480 IN.
 9.550 -5.630 -11.700 23.550 BREF 936.7000 IN.
 8.750 4.400 -11.700 25.550 YMRP 1081.3500 IN.
 3.730 12.040 -11.700 25.550 ZMRP .0000 IN.
 SCALE .0040

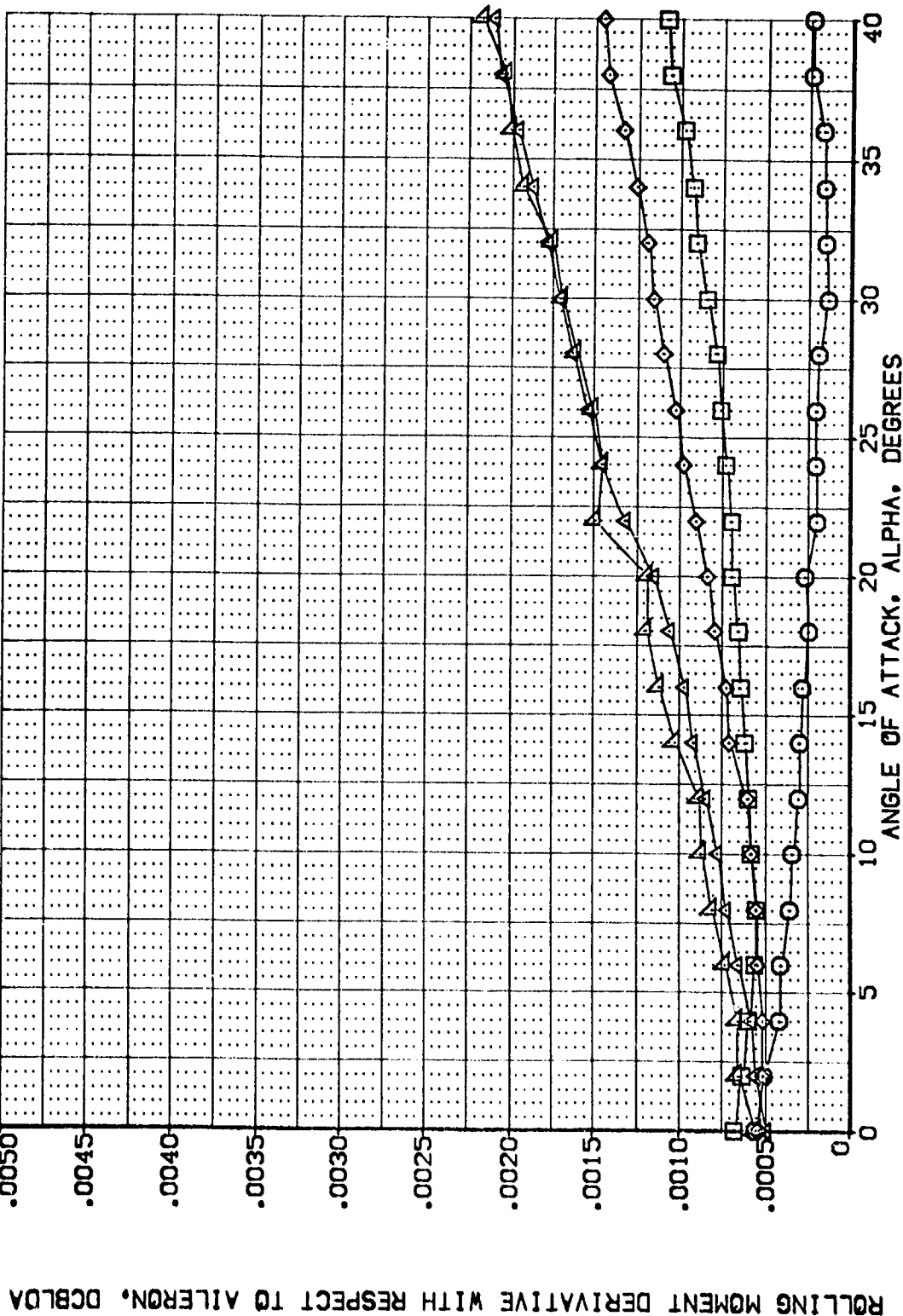


AILERON EFFECTIVENESS
 (B)MACH = .90

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION:
 (P32091) HSC 531 (0A49) C3 34-0 (BOTH) (VE) (VR)
 (P32092) HSC 531 (0A49) C3 34-0 (BOTH) (VE) (VR)
 (P32093) HSC 531 (0A49) C3 34-0 (BOTH) (VE) (VR)
 (P32094) HSC 531 (0A49) C3 34-0 (BOTH) (VE) (VR)
 (P32095) HSC 531 (0A49) C3 34-0 (BOTH) (VE) (VR)
 (P32096) HSC 531 (0A49) C3 34-0 (BOTH) (VE) (VR)
 (P32097) HSC 531 (0A49) C3 34-0 (BOTH) (VE) (VR)
 (P32098) HSC 531 (0A49) C3 34-0 (BOTH) (VE) (VR)

DELTA: 8.940 -24.640 -14.270 -5.800 4.400 12.040
 ELEV: 8.940 -24.640 -14.270 -5.800 4.400 12.040
 BDFLAP: -11.700 -11.700 -11.700 -11.700 -11.700 -11.700
 SPDRK: 25.550 25.550 25.550 25.550 25.550 25.550

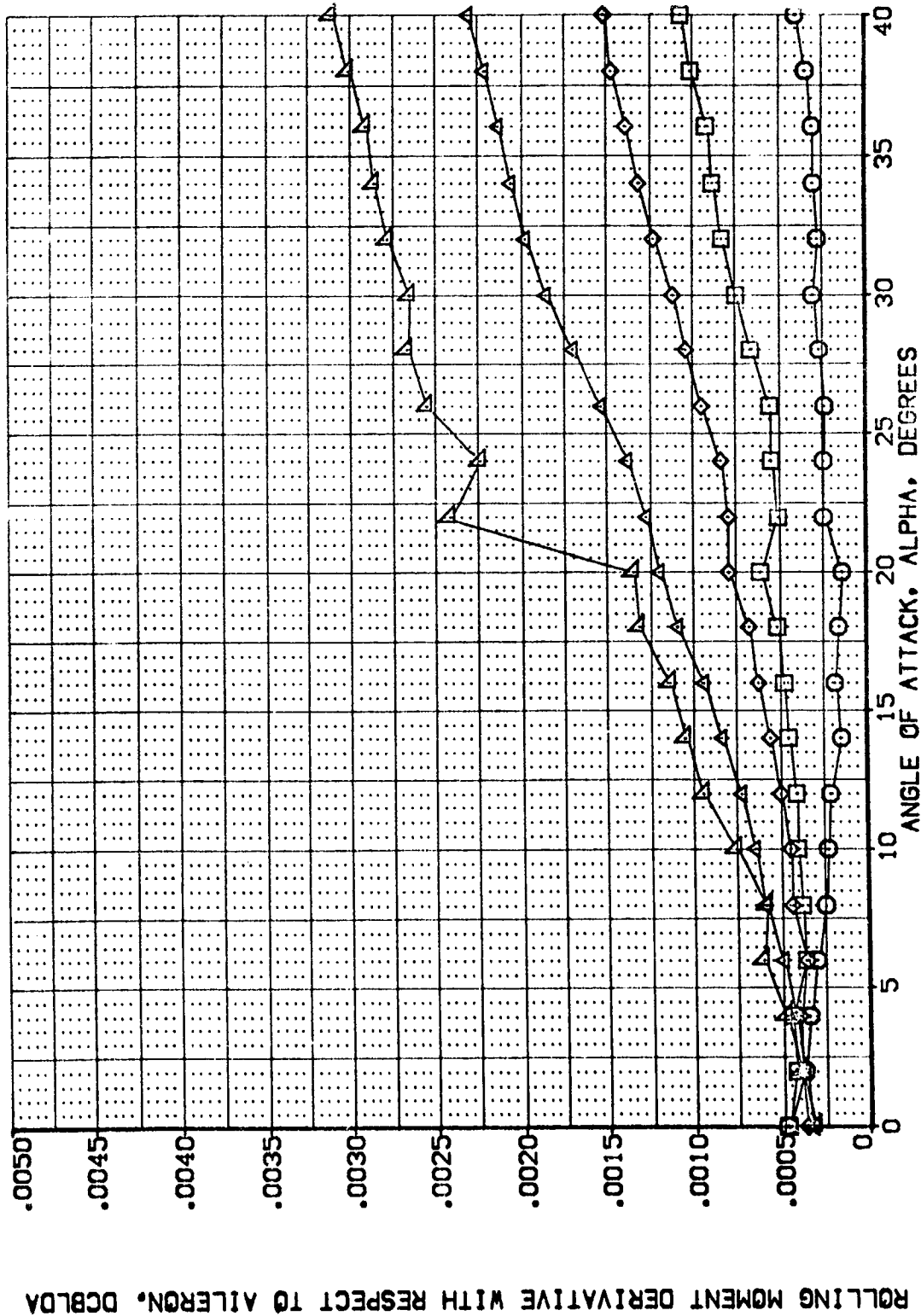
REFERENCE INFORMATION:
 SREF: 2741.8000 SQ. FT
 LREF: 481.6480 IN.
 BREF: 936.7000 IN.
 XPRP: 1081.3900 IN.
 YPRP: .0000 IN.
 ZPRP: .0000 IN.
 SCALE: .0040



AILERON EFFECTIVENESS

(C)MACH = 2.99

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA	ELEV. R	BOFLAP	SFCBPK	REFERENCE INFORMATION
(P92091)	MSFC 501(0A49) 0B8 3A-0 (BCFM)(VE)(VR)	8.940	-24.840	-11.700	25.550	SREF 2741.8000 50. FT
(P92093)	MSFC 501(0A49) 0B8 3A-0 (BCFM)(VE)(VR)	9.730	-14.270	-11.700	25.550	LREF 481.6480 IN.
(P92095)	MSFC 501(0A49) 0B8 3A-0 (BCFM)(VE)(VR)	9.950	-5.830	-11.700	25.550	BREF 536.7000 IN.
(P92097)	MSFC 501(0A49) 0B8 3A-0 (BCFM)(VE)(VR)	9.750	4.400	-11.700	25.550	XREF 1081.3000 IN.
(P92099)	MSFC 501(0A49) 0B8 3A-0 (BCFM)(VE)(VR)	9.750	12.040	-11.700	25.550	ZREF .0000 IN.
						SCALE .0040



AILERON EFFECTIVENESS

(D)MACH = 4.96

SYMBOL

ALPHA
5.000
10.000
15.000
20.000

**HACH
BOFLAP
BETA
CONF IS**

PARAMETER
1.600
11.700
.000
1.000

VALUES
ELARN
PDBRK
LUDER

8,940
5,550
1,000

1955
1956
1957

SOURCE	DATE	TIME	LOCATION	REMARKS
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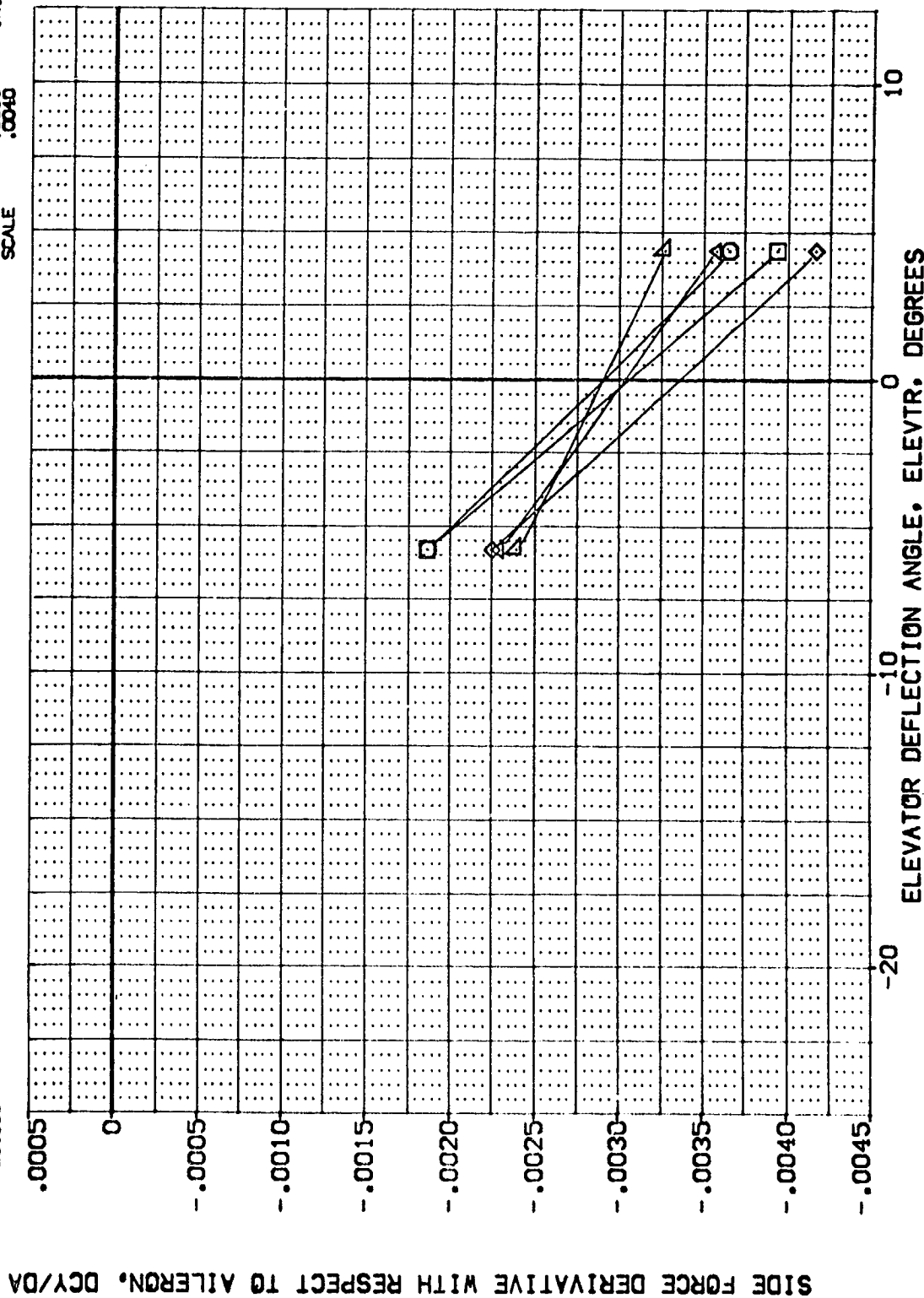
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YTR 270 400

2741
481
936
1081

FORMAT 51111

13



AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992891)

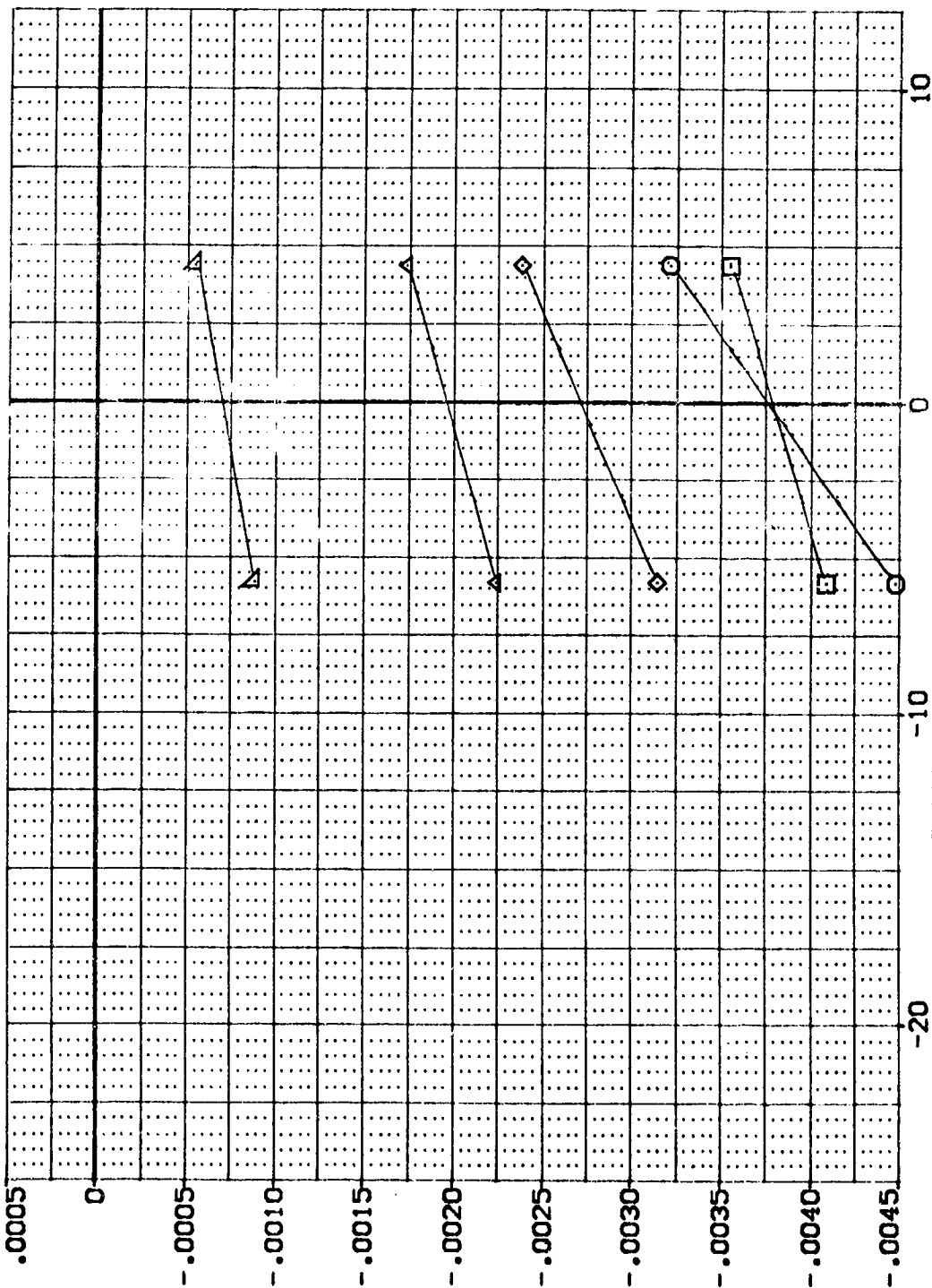
SYMBOL
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PARAMETRIC VALUES
 ALPHA .000
 MACH 5.000
 BOFLAP 10.000
 BETA 15.000
 CONF16 20.000
 DELARN .900
 SPOBRK -11.700
 RUDDER .000
 CONF16 1.000

DATA SOURCE
 DATASET 8.940
 ELEVTR -24.640
 DATASET 992891
 ELEVTR -5.830
 DATASET 992892
 ELEVTR 12.040

REFERENCE INFORMATION
 SREF 2741 5300 SQ. FT
 LREF 481 5480 IN.
 BREF 935 7000 IN.
 XREF 1081 3500 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 SCALE .0040

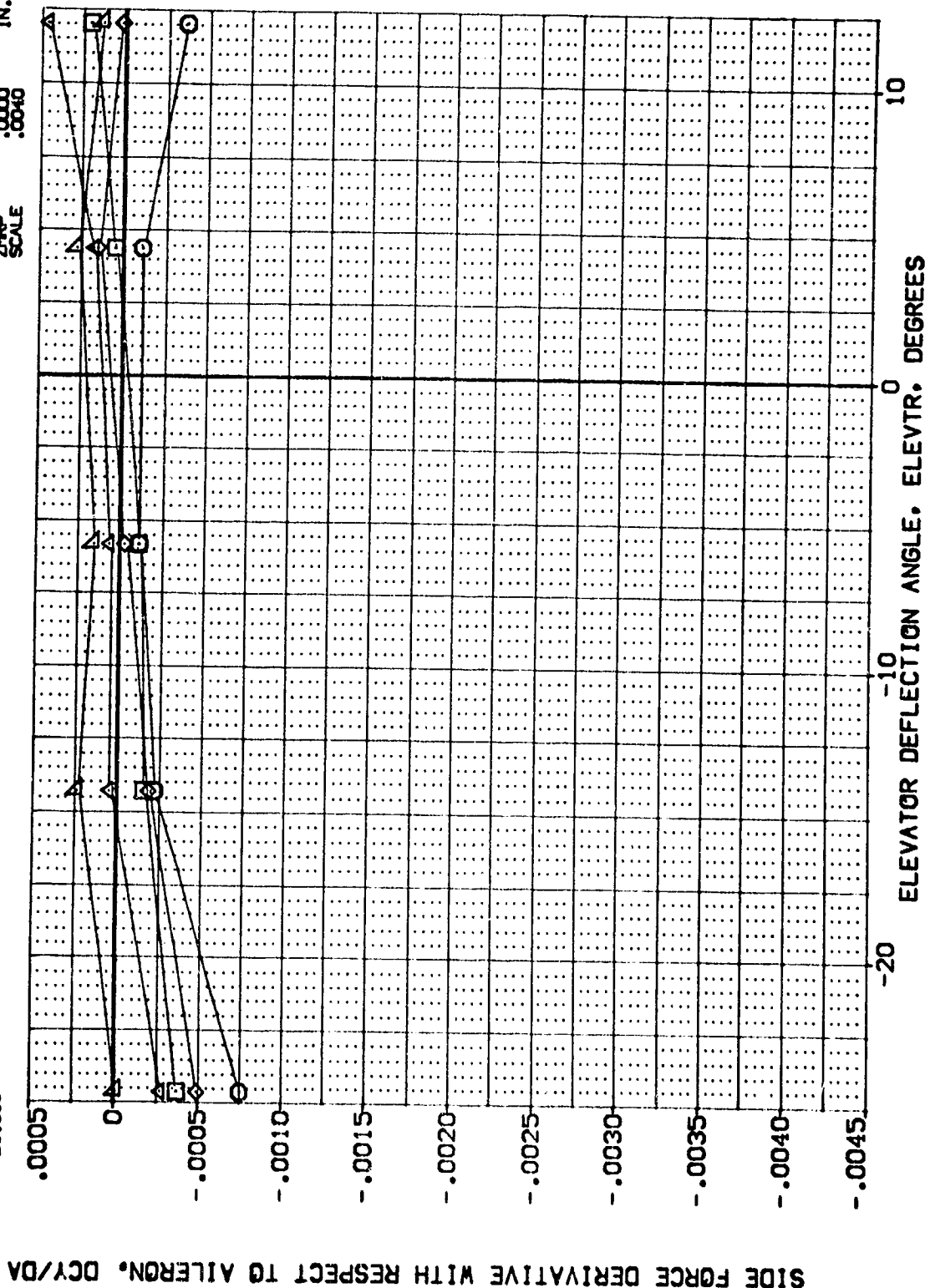
SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA



AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992891)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	ELEVTR	DATASET	ELEVTR	SREF	REFERENCE INFORMATION
□	.000		2.950 DELARN	0.940	-24.840	992891	-14.270	2741.8000	50. FT
◇	5.000		-11.700 SPOBRK	25.550	-5.630	992891	4.400	481.6480	IN.
△	10.000		.000 RUDDER	.000	12.040	992897		936.7000	IN.
▽	15.000		1.000					1081.3500	IN.
△	20.000							.0000	IN.
								.0000	IN.
								.0040	SCALE



AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992891)

SYMBOL
 ○
 □
 △
 ▽

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 4.960
 DELAYN -11.700
 SPOBRK .000
 RUDDER 1.000

DATA SOURCE
 ELEVTR -24.640
 -5.830
 12.040

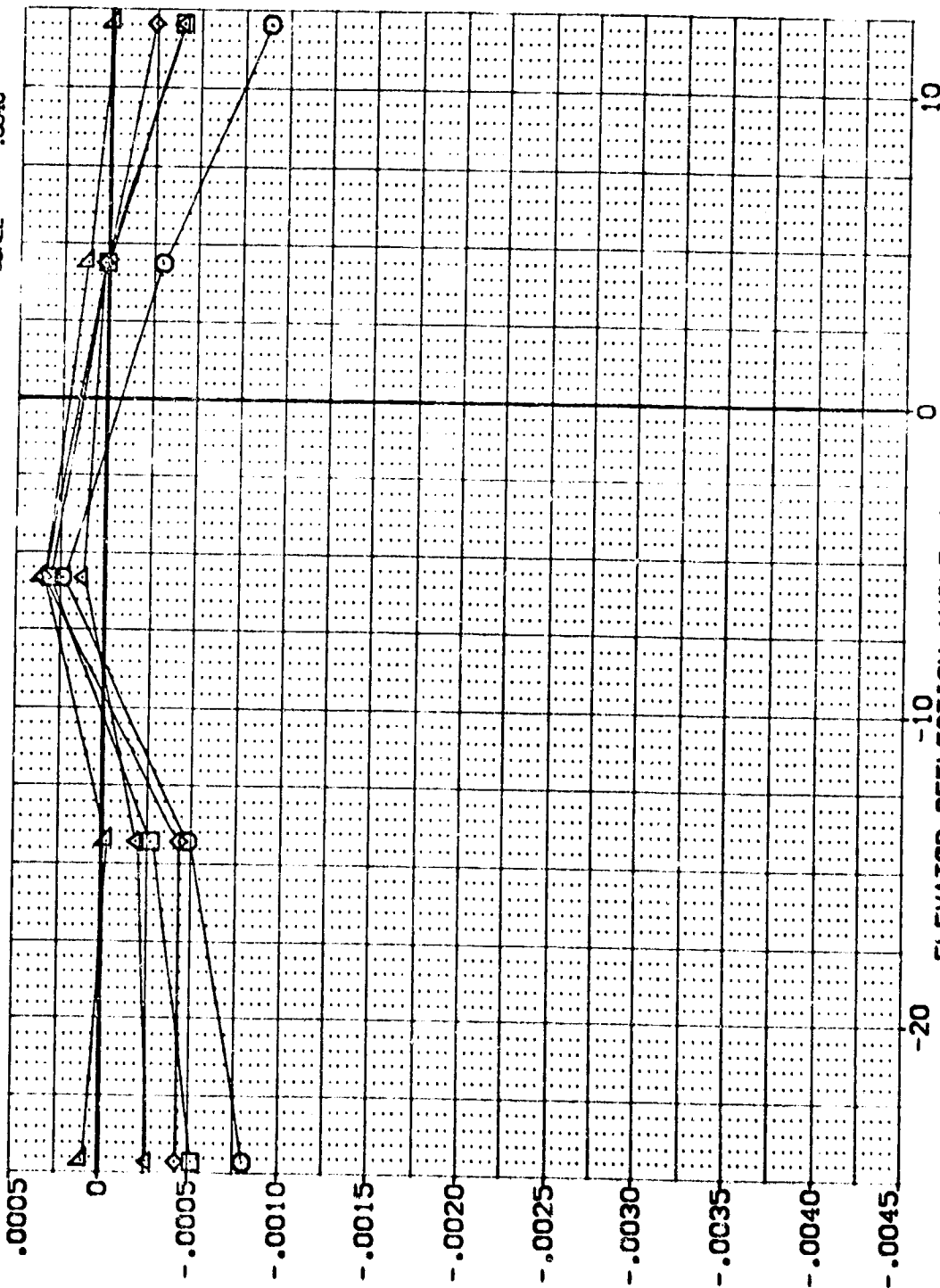
DATASET 8.940
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 992891
 992891

ELEVTR
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 4.400

REF
 2741.8000
 481.6480
 936.7000
 1081.3500
 .0000
 .0000
 .0040

SCALE

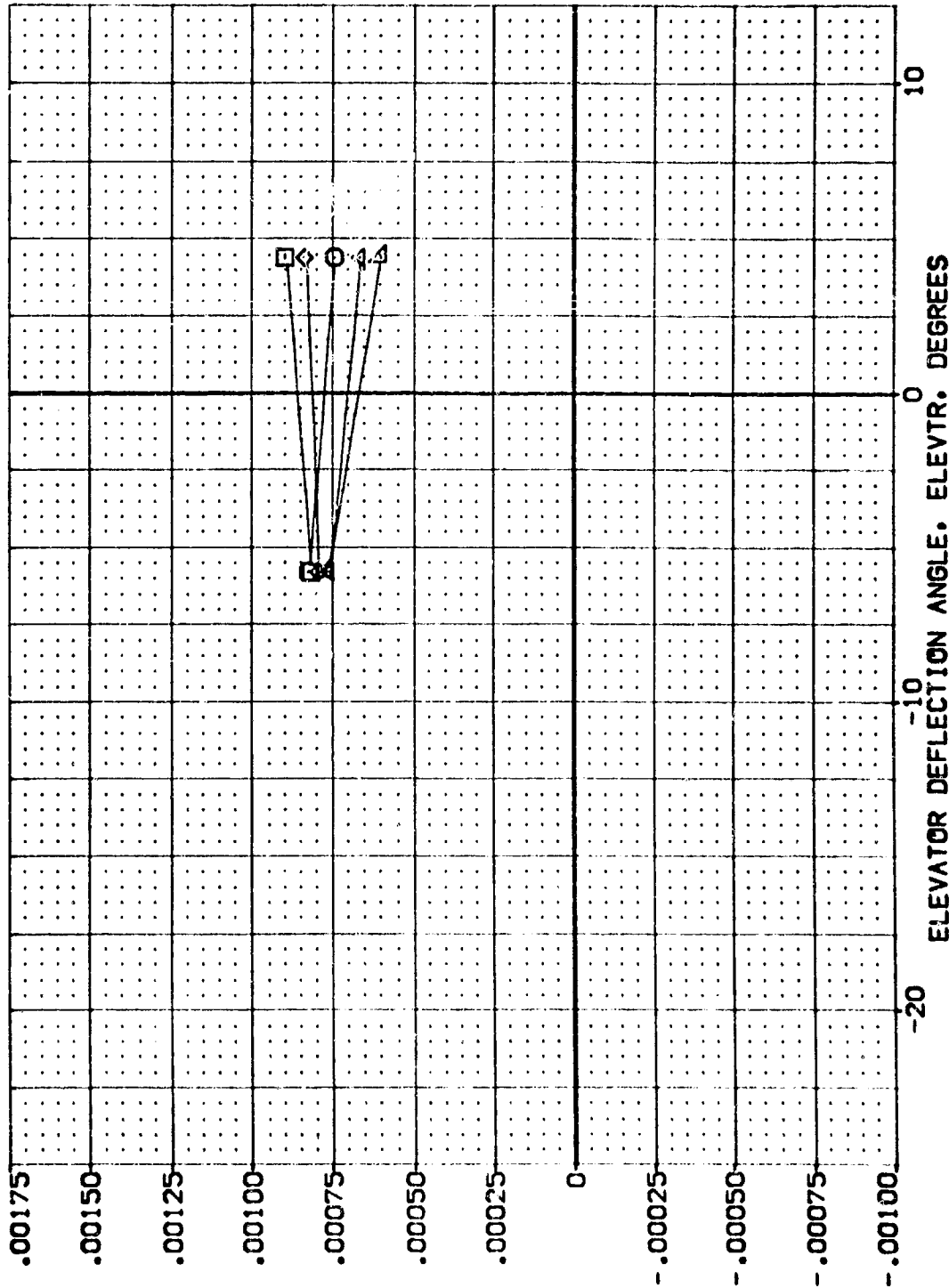
SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA



AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992B91)

SYMBOL	ALPHA	PARAMETRIC VALUES				DATA SOURCE				REFERENCE INFORMATION			
	0	MACH	.600	DELARN	8.940	DATASET	ELEVTR	58EF	2741.8000	90. FT			
	□	BDCLAP	-11.700	SPDRK	25.550	992B91	-24.640	LREF	481.6480	IN:			
	◇	BETA	.000	RUDER	.000	992B95	-5.830	BREF	936.7000	IN:			
	△	CONFIG	1.000		.000	992B89	12.040	XREF	1081.3500	IN:			
								YREF	.0000	IN:			
								ZREF	.0000	IN:			
								SCALE	.0040				

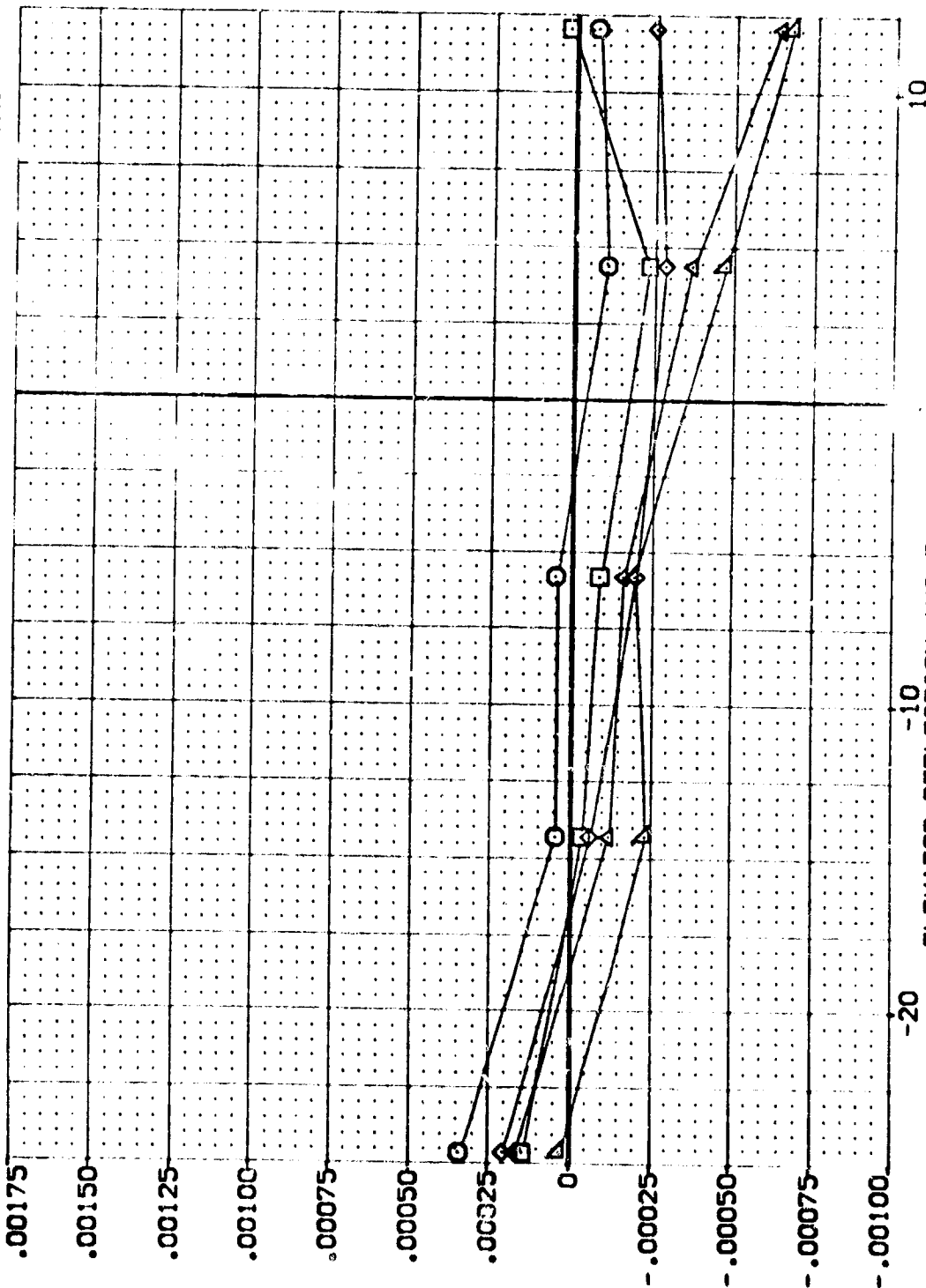


AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

(992891)

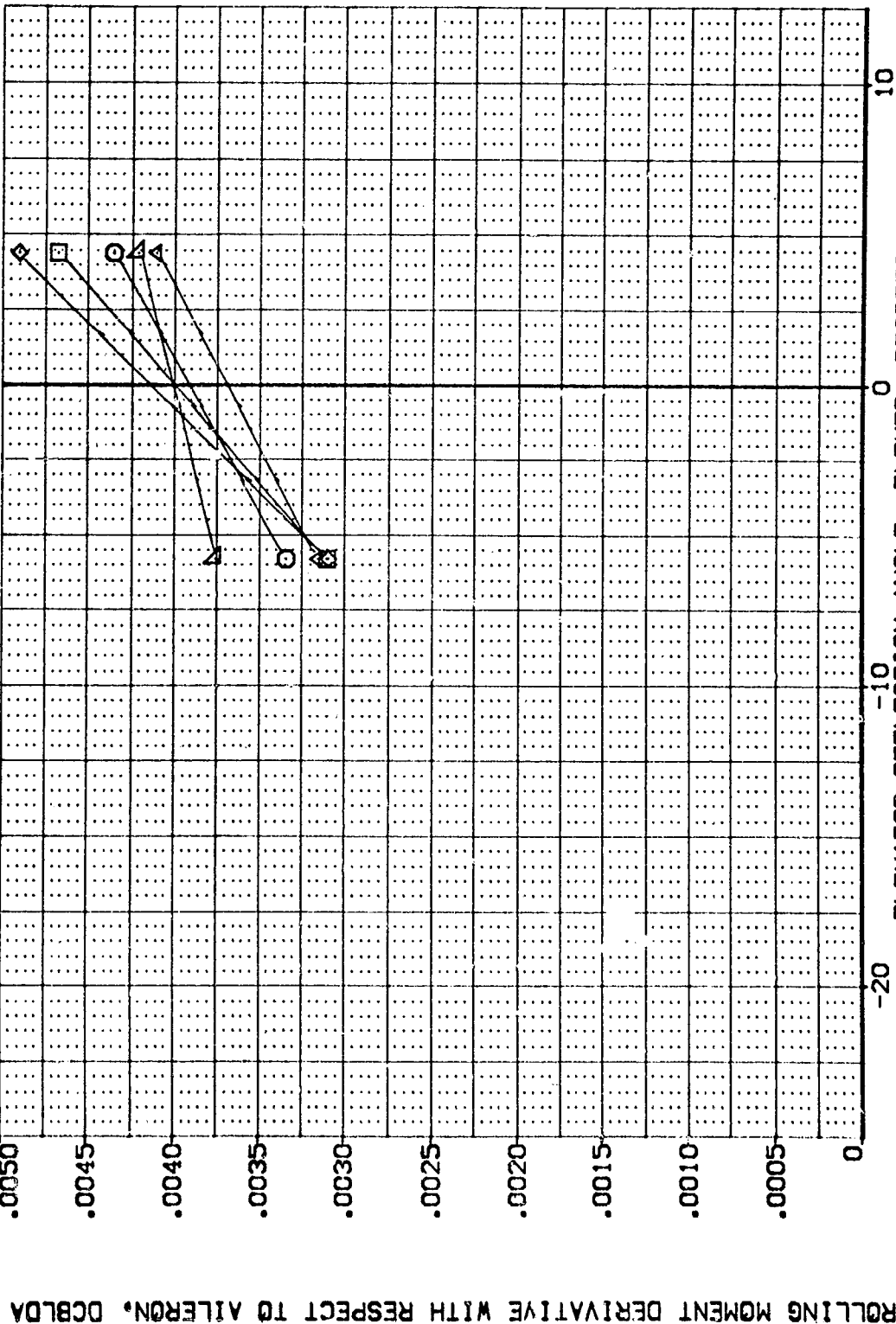
37482	ALPHA	0.000	MAC	4.350	DELARN	0.940	DATASET	ELEVTR	DATA SOURCE	ELEVTR	SREF	REFERENCE INFORMATION
		5.000	BDCLAP	-11.700	SPDRK	25.550	992891	-24.640	992893	-14.270	UREF	2741.8000
		10.000	BETA	.000	RUDER	.000	992895	-5.830	992897	4.400	UREF	491.6480
		15.000	CONFIG	1.000			992899	12.040			YREF	536.7000
		20.000									ZREF	1081.2900
											YREF	.0000
											ZREF	.0000
											SCALE	.0040



AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992B91)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SOURCE	ELEVTR	ELEVTR	SREF	REFERENCE INFORMATION
□	.000	.600	DELARN	9.940	992B91	-24.640	-14.270	2741.8000	90. FT
□	5.000	-11.700	SPORRK	25.350	992B91	-5.830	4.400	481.6480	IN.
◇	10.000	.000	RUDER	.000	992B91	12.040		536.7000	IN.
△	15.000	CONFIG	1.000		992B91			1081.3500	IN.
△	20.000							.0000	IN.
								.0000	IN.
								.0040	SCALE

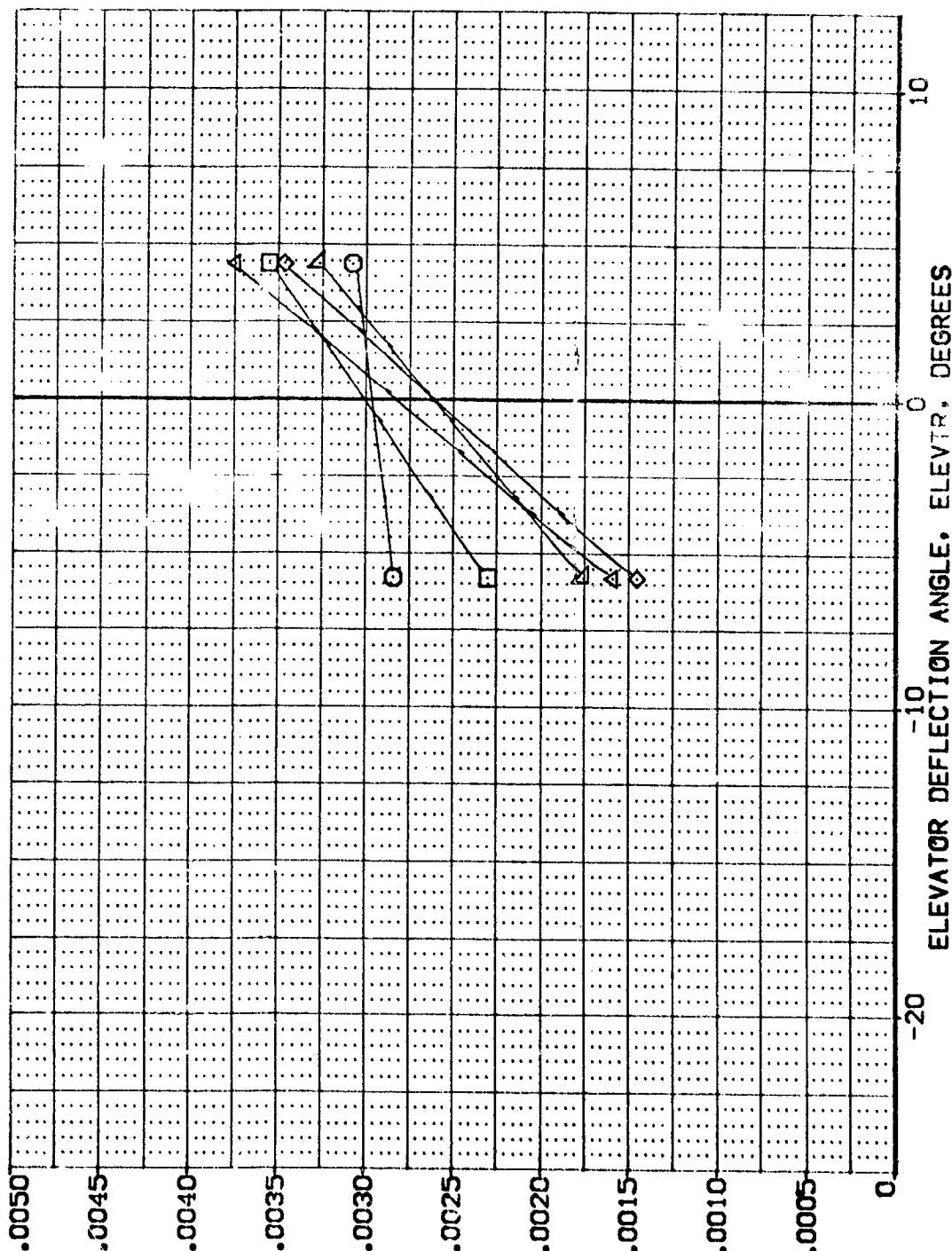


AILERON EFFECTIVENESS

MSFC 581(0A49) CRB 34-0 (BCFM)(WE)(VR) (992891)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	ELEVTR	SREF	REFERENCE INFORMATION
○	.000		.900 DELARN	ELEVTR	992893	-14.270	2741.8000	50. FT
□	5.000	BDFLAP	-11.700 SPOBRK	-24.640	992891	4.400	481.6490	IN.
◇	10.000	BETA	.000 RUDDER	-5.630	992895		936.7000	IN.
△	15.000	CONF18	1.000	12.040	992899		1081.3900	IN.
▽	20.000						YMRP .0000	IN.
							ZMRP .0000	IN.
							SCALE .0040	

ROLLING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCPRLDA

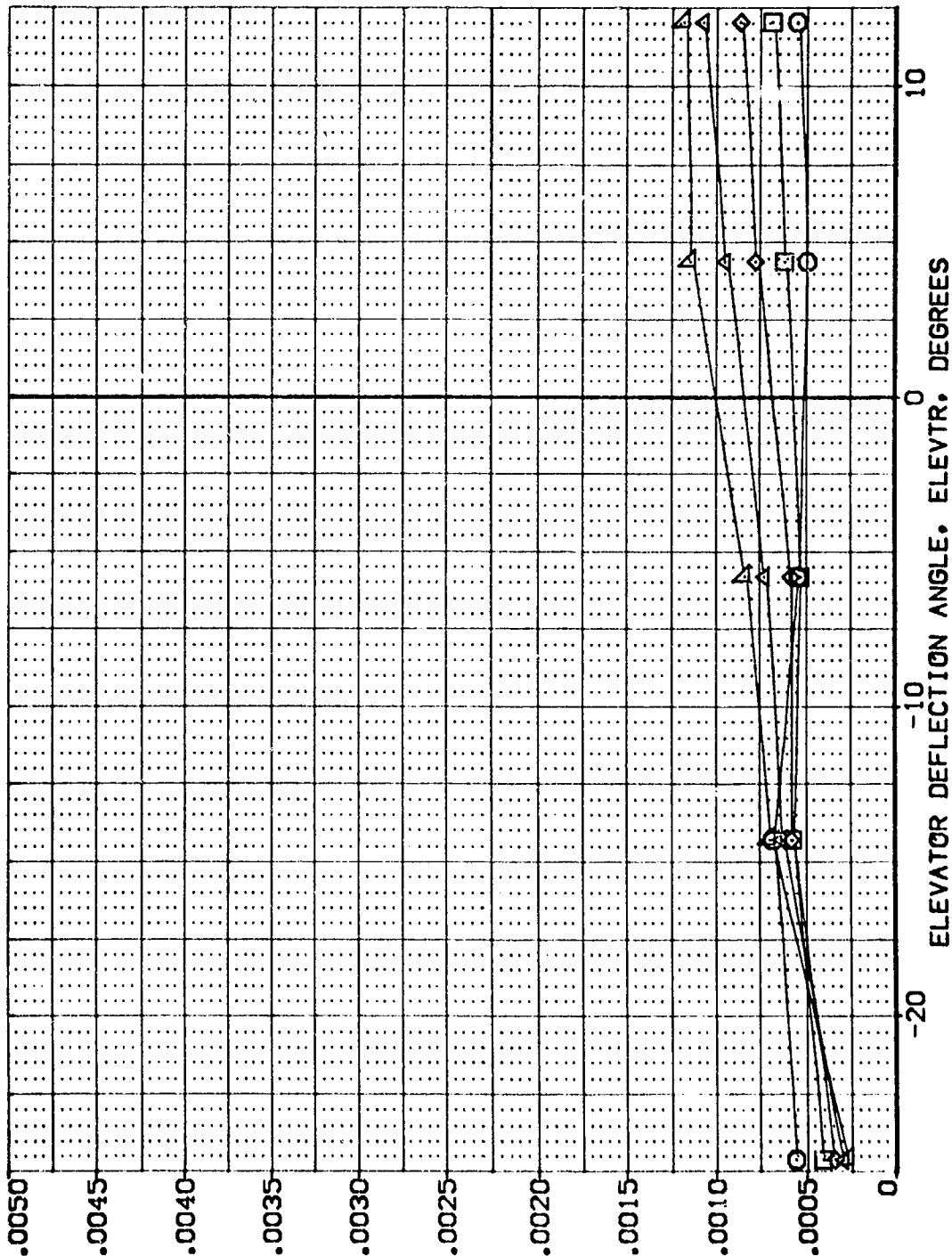


AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992B91)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	ELEVTR	DATA SET	ELEVTR	SREF	REFERENCE INFORMATION
○	.000		DELARN	0.940	992B91	-24.640	992B93	-14.270	481.6480	50. FT
□	5.000	BOFLAP	-11.700	25.550	992B95	-5.830	992B97	4.400	481.6480	IN.
◇	10.000	BETA	.000	.000	992B95	12.040			936.7000	IN.
△	15.000	CONF18	1.000		992B95				1081.3500	IN.
▽	20.000								.0000	IN.
									.0000	IN.
									.0040	SCALE

ROLLING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCBLDA

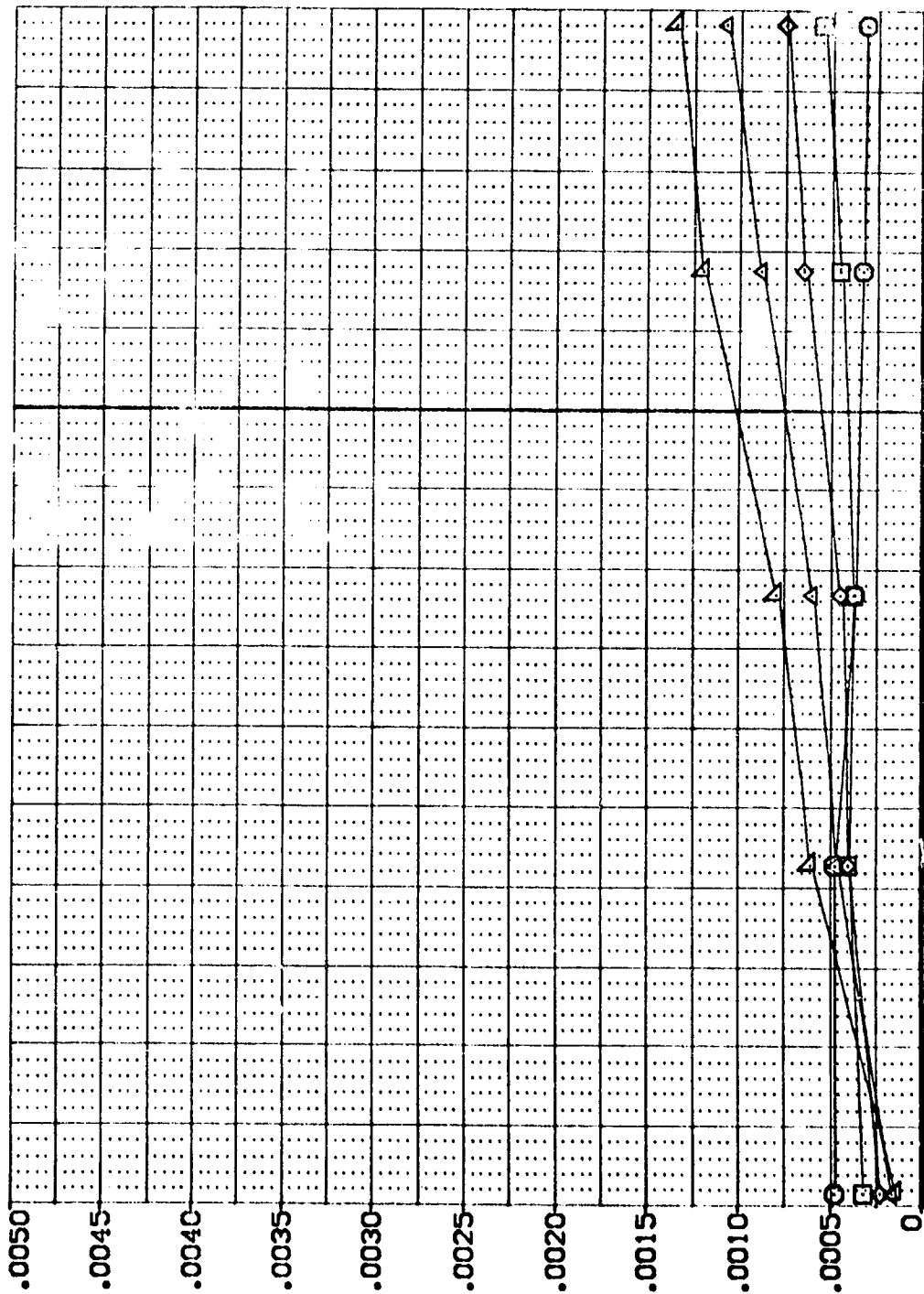


AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992B91)

SYMBOL	ALPHA	MACH	BOFLAP	BETA	CONFIG	PARAMETRIC VALUES	DATA SOURCE	DATA SET	ELEVTR	REFERENCE INFORMATION
○	.000					DELARN	8.940	992B91	-24.640	2741.6000
□	5.000					SPDRK	25.550	992B91	-14.270	481.6480
◇	10.000					RUDER	.000	992B91	4.400	936.7000
△	15.000									1081.3000
▽	20.000									1081.3000
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										0.0000
										0.0040

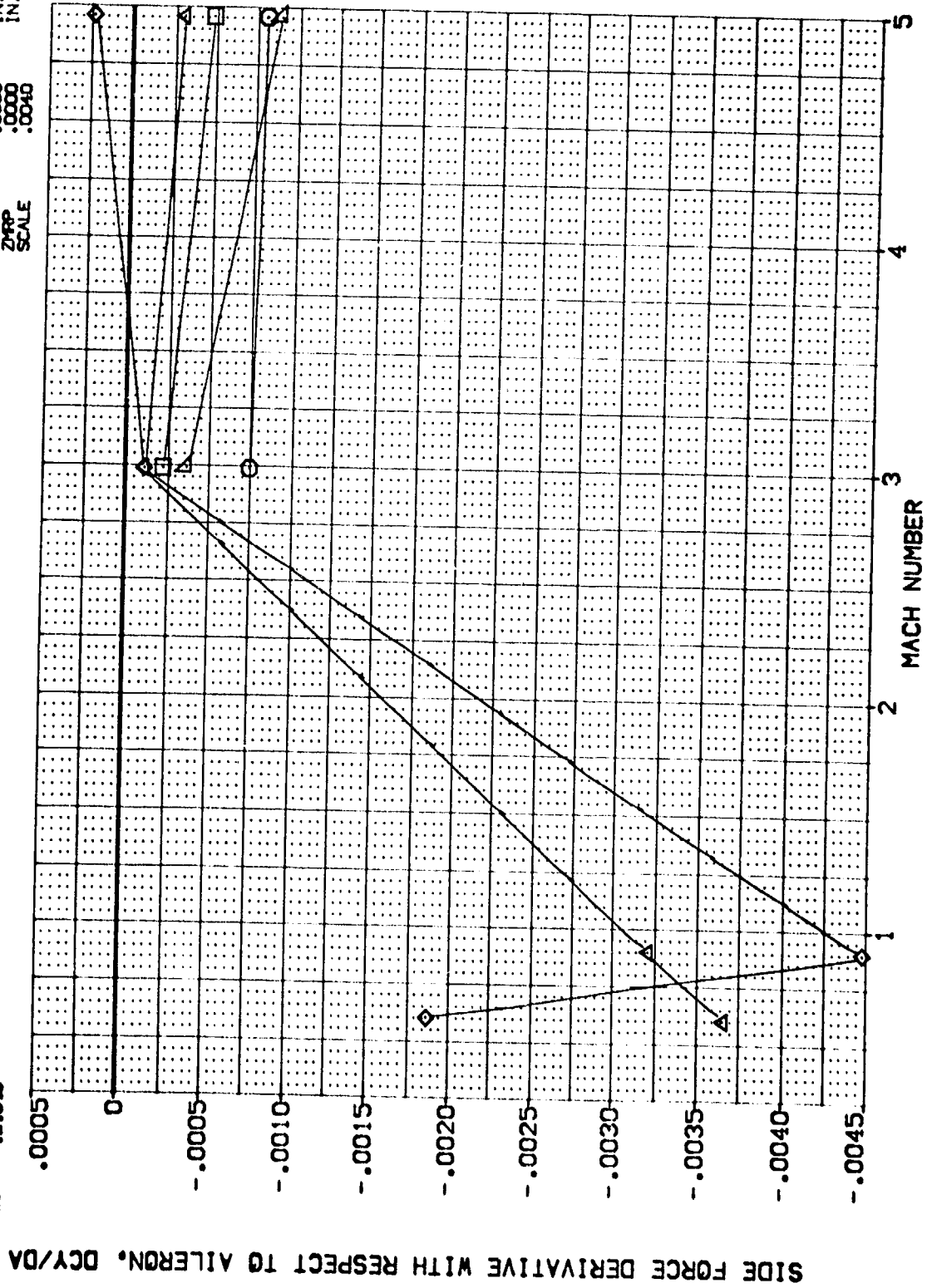
ROLLING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCBLDA



AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992891)

SYMBOL	ELEVTR	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
◇	-24.640	ALPHA	0.940	2741.8000
□	-14.270	DELTA	25.550	481.6480
◇	-5.830	SPDRK	992891	936.7000
◇	4.400	RUDER	992891	1081.2500
◇	12.040	CONF16	992891	0.0000
				0.0040
				SCALE



MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992891)

5000 0 1 2 3 4 5 6 7 8 9

ELEVTR	ALPHA
-24.640	BOFLAP
-14.270	BETA
-5.830	CONFIG
4.400	
12.040	

PARAMETRIC VALUES
DELARN
5.000
SPOBRK
-11.700
RUDDER
.000
1.000

0.940	DATASET	ELEVTR	DATA SET
25.550	992891	-24.540	
.000	992895	-5.830	
	992889	12.040	

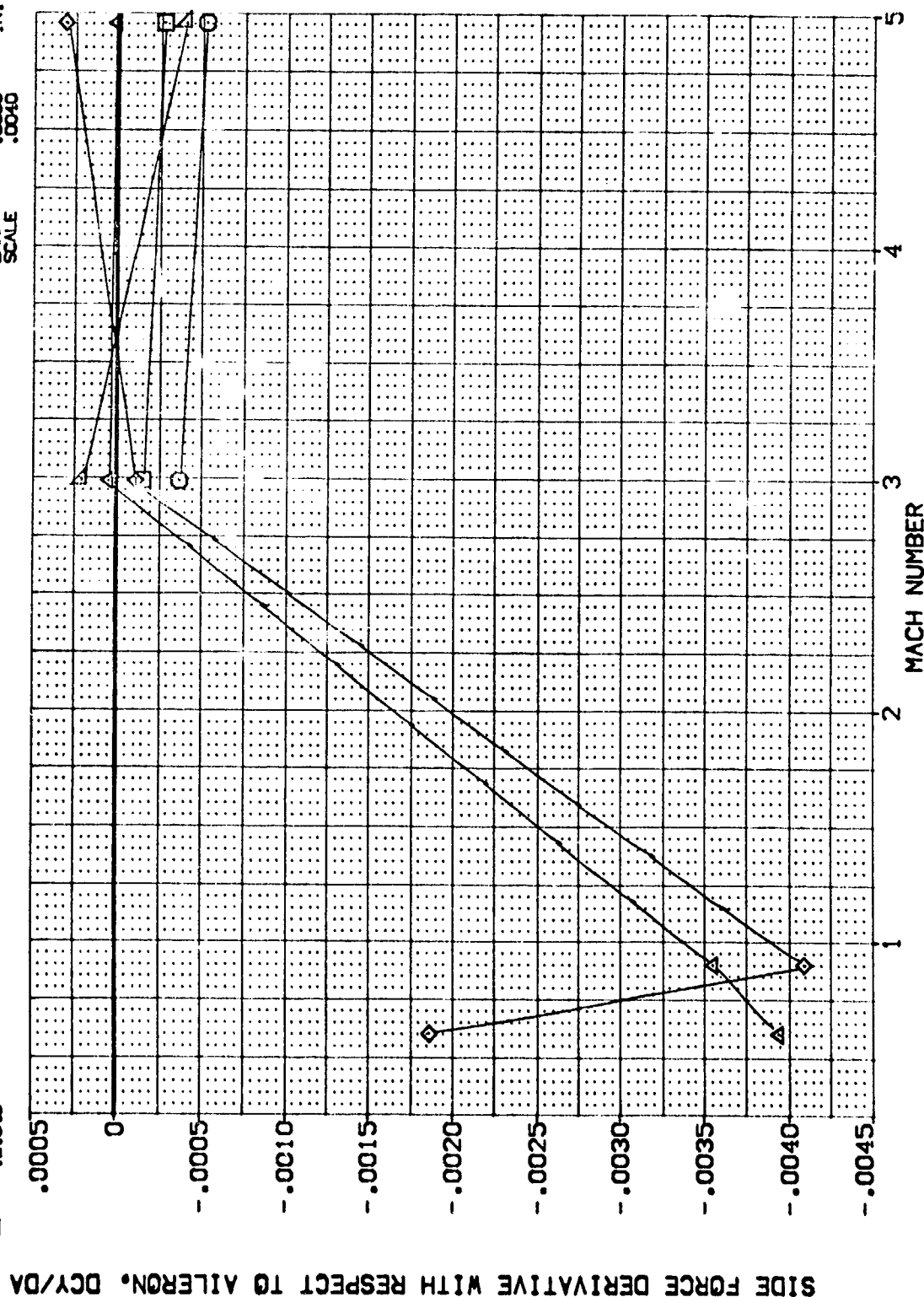
DATA SOURCE
ELEVTR
-24.640
-5.800
12.040

DATASET
992893
992897

ELEVTR
-14.270
4.400

SCALE
ZMRP
YMRP
XMRP
BREF
LREF
SREF

REFERENCE INFORMATION	
SG.	FT
2741	8000
481	6480
538	7000
1081	3300
	0000
	0000
	0040

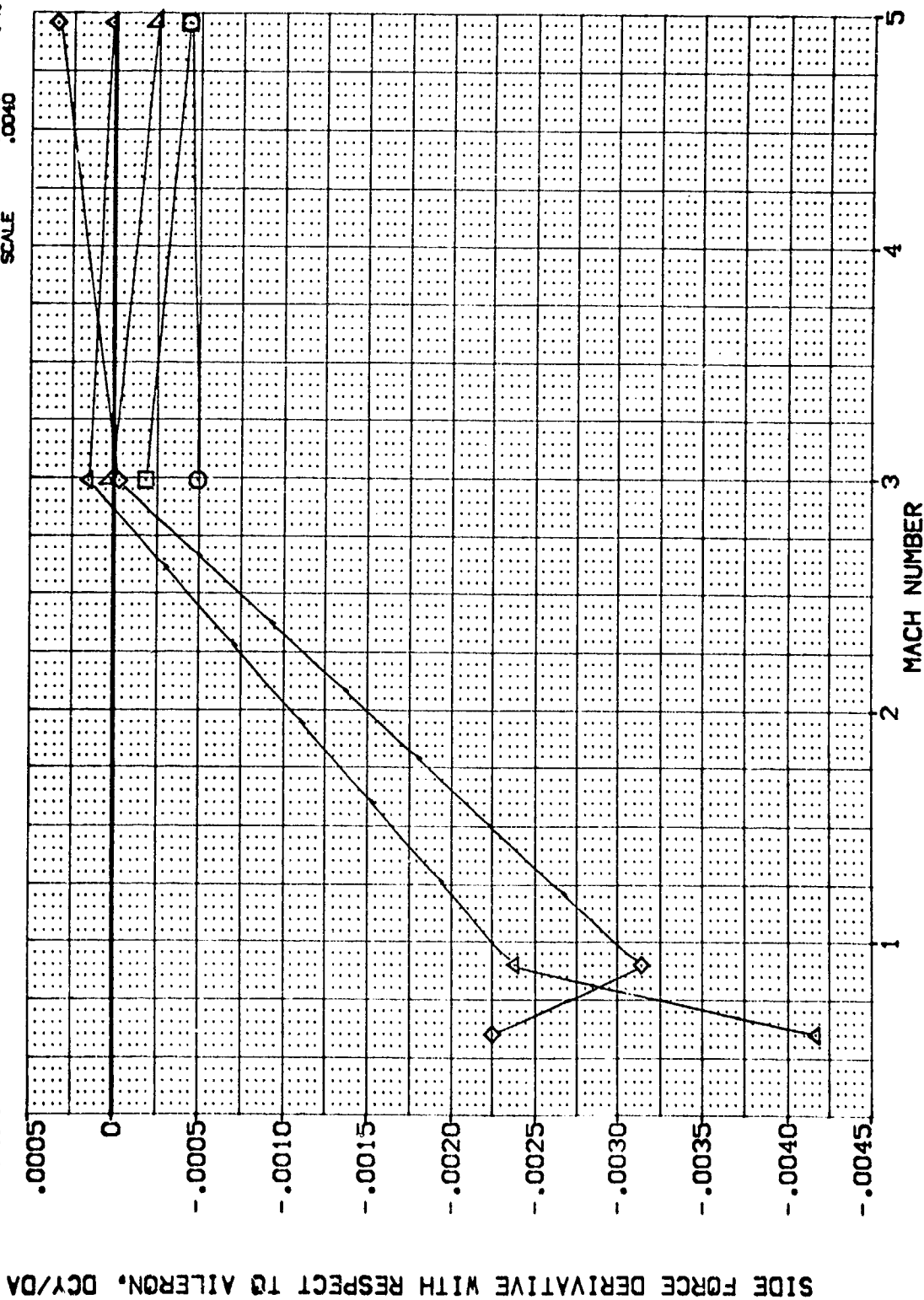


AILERON EFFECTIVENESS

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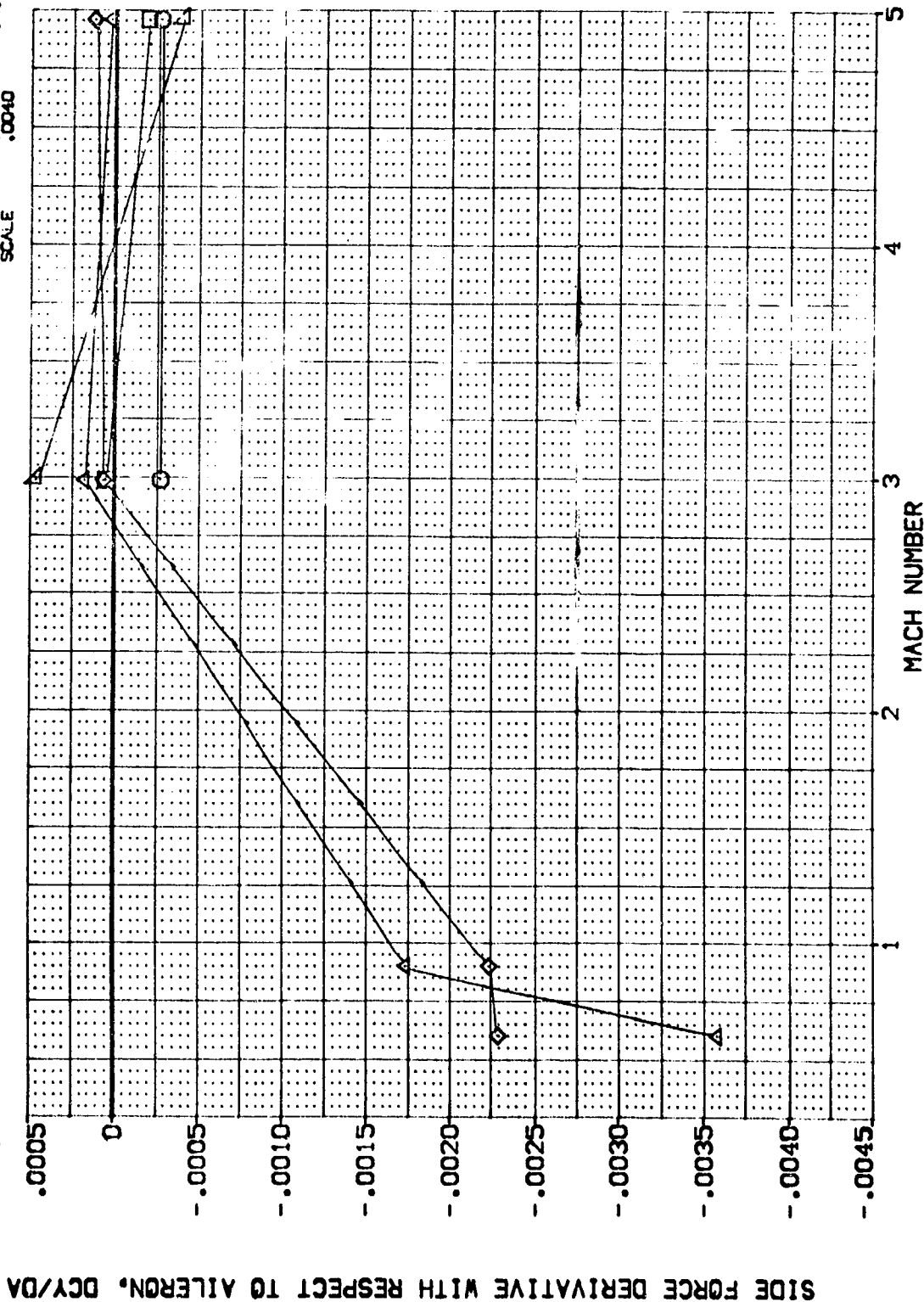
MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992891)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ELEVTR	ALPHA	10.000	DELARN	0.940	DATASET	ELEVTR	SREF
-24.640	BDFLAP	-11.700	SPOBRK	25.550	992891	-24.640	LREF
-14.270	BETA	.000	RUDDER	.000	992893	-14.270	BREF
-5.830	CONF16	1.000		12.040	992897	4.400	XMRP
4.400							YMRP
12.040							ZMRP
							SCALE
							SO. FT
							IN.
							IN.
							IN.
							IN.
							IN.



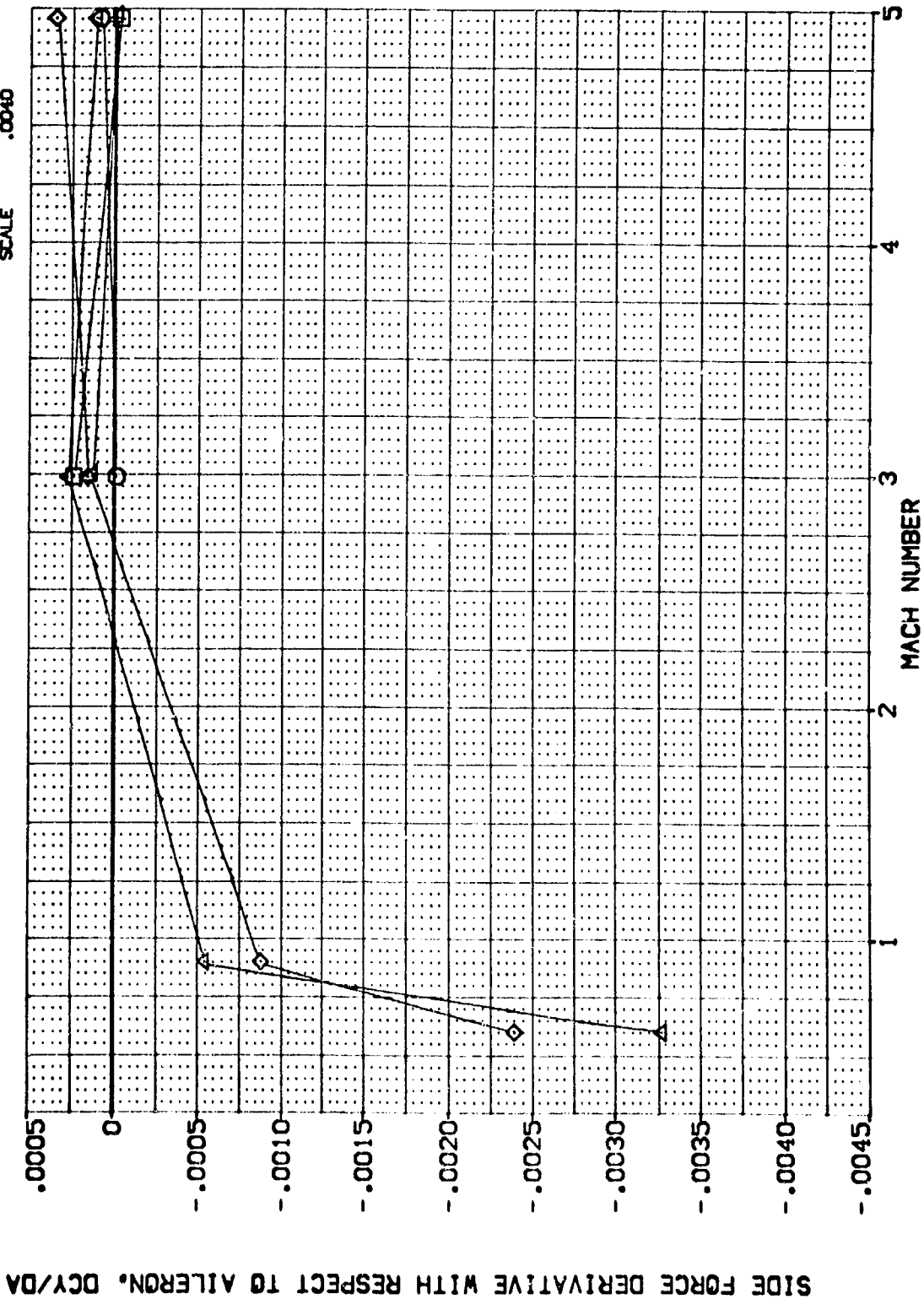
MSFC 581(0A49) DRB 34-0 (BCFM)(WE)(VR) (992891)

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
□	ELEVTR	ALPHA	DELARN	8.940	DATASET	ELEVTR	SREF	2741	3000	SG. FT	
□	-24.640	BDFLAP	SPDRK	25.550	992891	-24.640	LREF	46	5000	IN:	
□	-14.270	BETA	RUDDER	.000	992893	-5.830	BREF	53	7000	IN:	
□	-5.830	CONF18		1.000	992897	12.040	XREF	1081	3900	IN:	
□	4.400						YREF		10000	IN:	
□	12.040						ZREF		10000	IN:	
							SCALE		10040	IN:	



MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992B91)

SYMBOL	ELEVTR	PARAMETRIC VALUES	DATA SOURCE	DATA SET	ELEVTR	REFERENCE INFORMATION
○	-24.640	ALPHA	0.940	992B91	2741.8000	99. FT
□	-14.270	BDFLAP	25.550	992B91	481.6480	IN.
◇	-5.800	BETA	.000	992B91	936.7000	IN.
△	4.400	CONFIS	.000	992B91	1081.3900	IN.
	12.040				0.0000	IN.
					0.0040	SCALE



AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

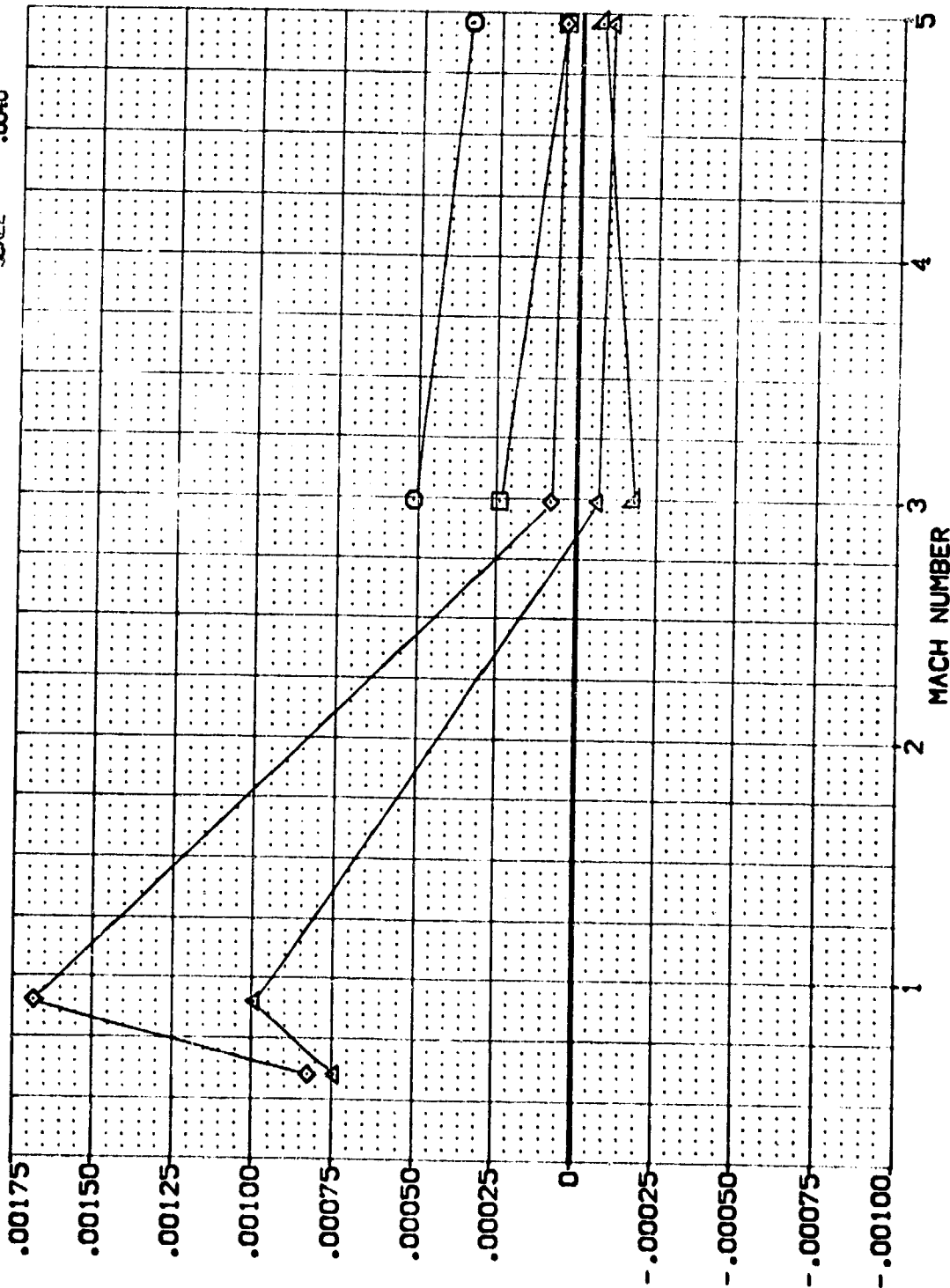
(992B91)

SYMBOL
O
□
◇
△

PARAMETRIC VALUES
ALPHA
DELTA
BETA
CONFID
-24.640
-11.700
-5.830
4.400
12.040
0.000
0.000
0.000
1.000

DATA SOURCE
ELEVTR
DATASET
8.940
25.550
0.000
992391
992392
992393

REFERENCE INFORMATION
SREF
LREF
XREF
YREF
ZREF
SCALE
2741.8000
451.6400
936.7000
1081.3500
0.0000
0.0000
0.0040



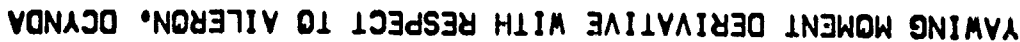
YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYND

AILERON EFFECTIVENESS

MSFC 581(OA49) ORB 34-0 (BCFM)(WE)(VR)

(992891)

STREEL	ELEVTR	ALPHA	DELARN	9.240	DATASET	ELEVTR	DATASET	ELEVTR	REF	2741.8000	90.0000
□	-24.640	5.000	DELARN	25.550	992891	-24.640	992893	REF	481.6480	IN:	IN:
□	-14.270	-11.700	SPDRK	.000	992895	-5.830	992897	REF	536.7000	IN:	IN:
◇	-5.830	1.000	RUDDR		992895			REF	1081.3500	IN:	IN:
◇	4.400				992869	12.040		REF	.0000	IN:	IN:
△	12.040							REF	.0000	IN:	IN:
								REF	.0040	IN:	IN:

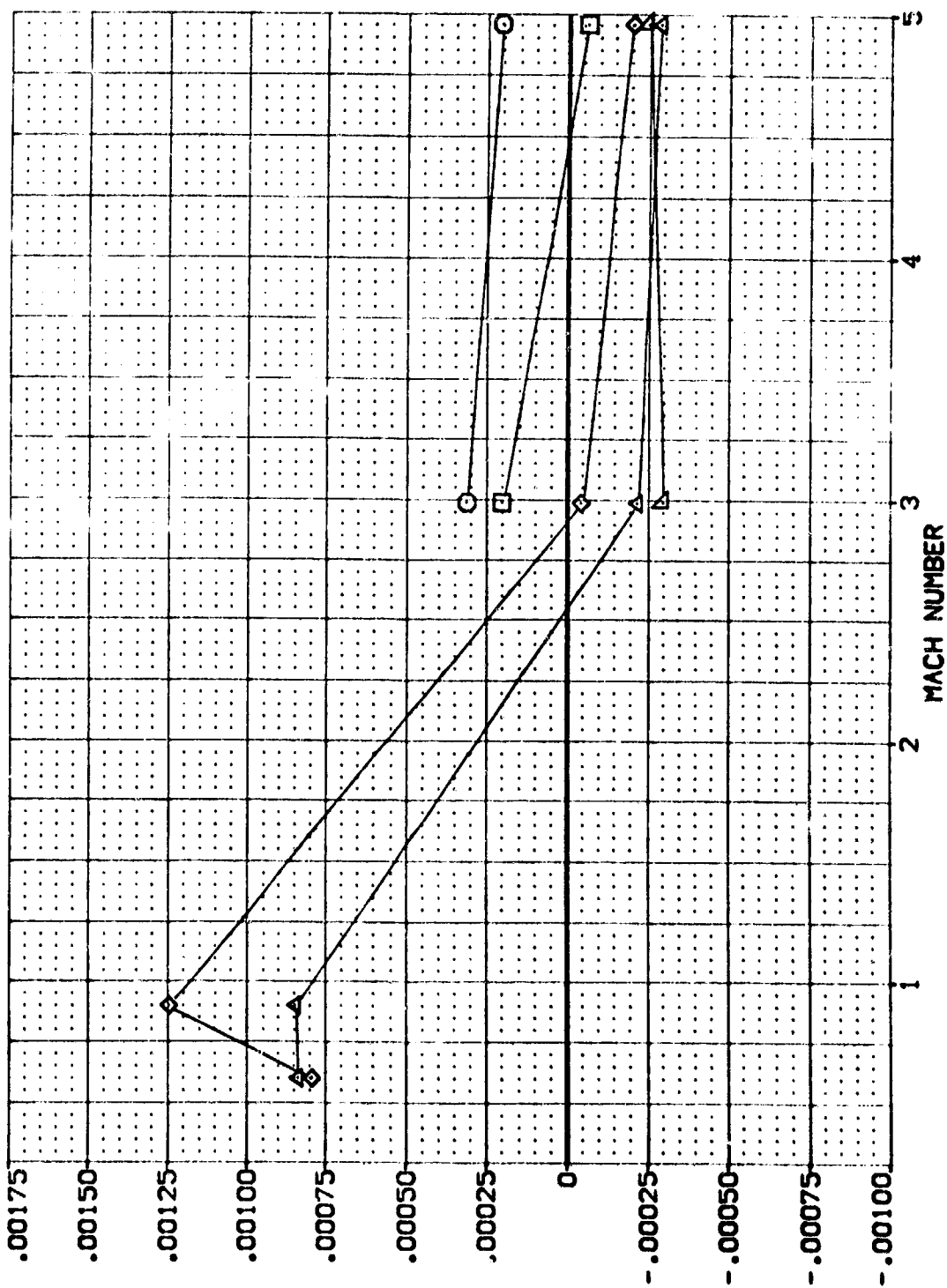


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MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

(992B91)

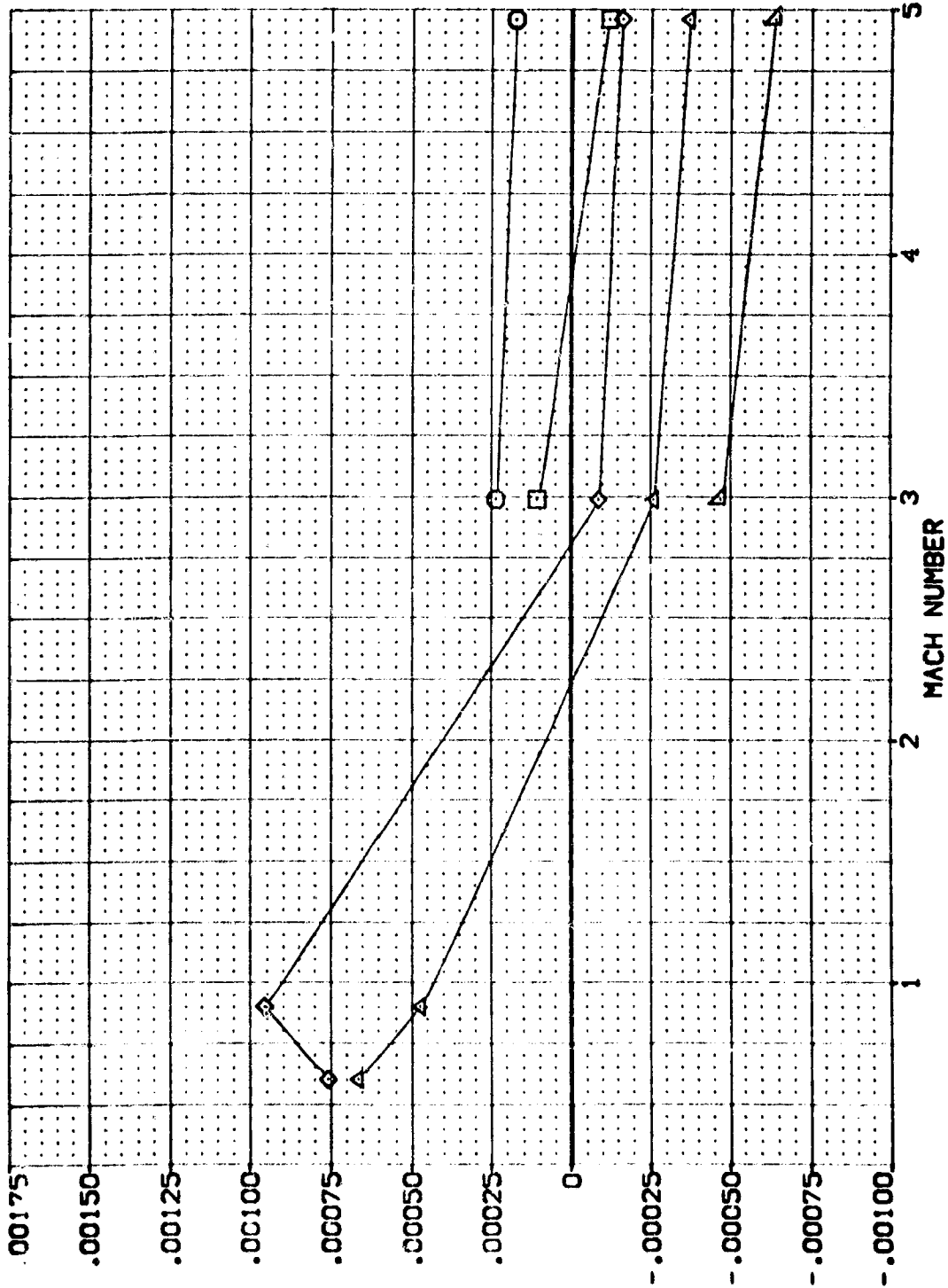
SYMBOL	ELEVTR	PARAMETRIC VALUES				DATA SOURCE				REFERENCE INFORMATION			
		ALPHA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA
○	-24.640	10.000	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	
□	-14.270	8.940	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	
◇	-5.830	25.550	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	
△	4.400	.000	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	
▽	12.040	1.000	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	



AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992891)

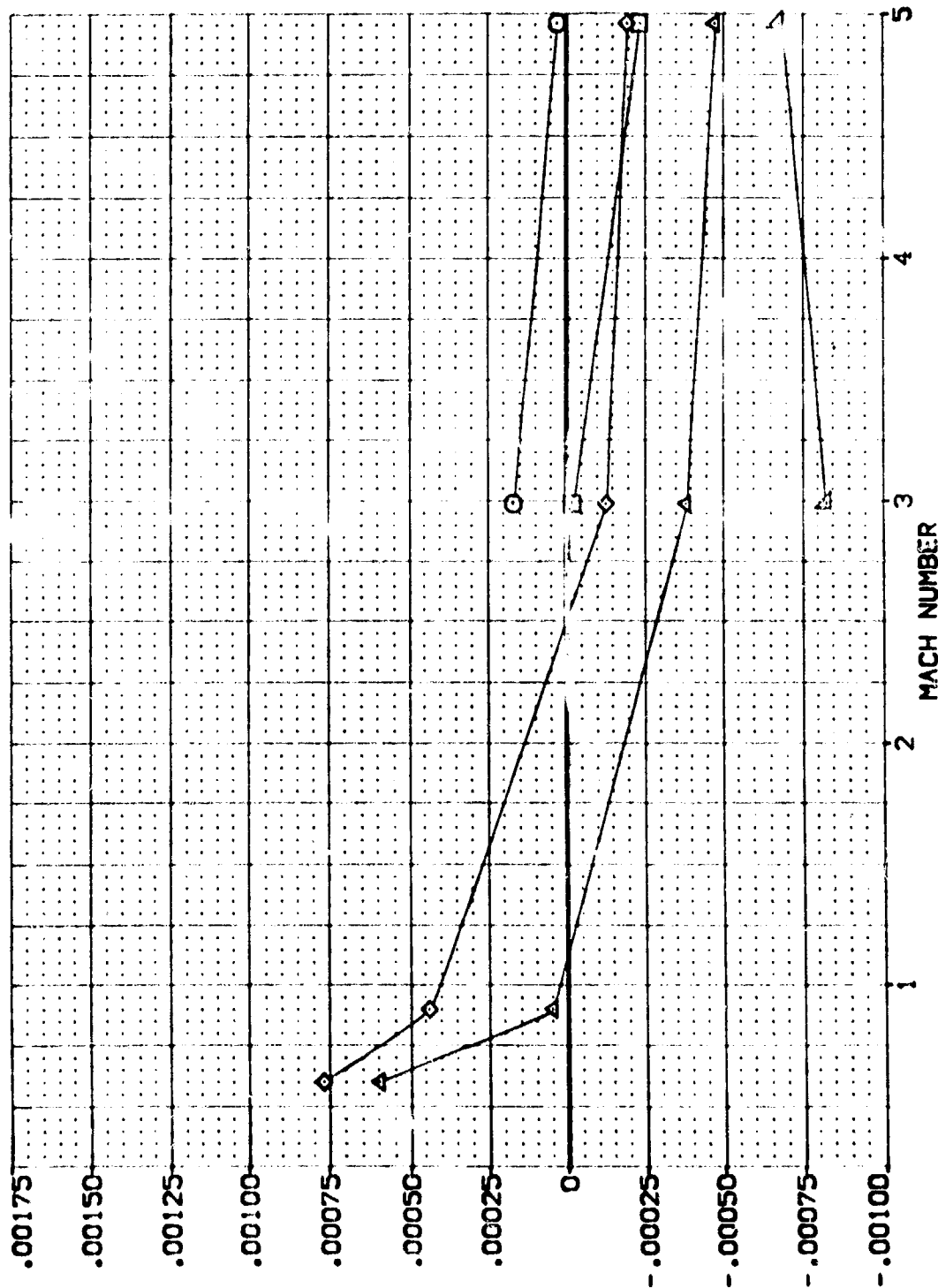
SYMBOL		ELEVTR		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	ALPHA	-24.640	15.000	DELARN	9.940	DATASET	SRREF	2741.8000	SQ. FT
□	BDFLAP	-14.270	-11.700	SPOBRK	25.550	992891	LREF	481.6480	IN.
◇	BETA	-5.800	.000	RUDDER	.000	992897	SRREF	936.7000	IN.
△	CONF10	4.400	1.000		.000	992898	SRREF	1081.3500	IN.
		12.040					SRREF	.0000	IN.
							SRREF	.0040	IN.



AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992891)

SYMBOL	ELEVTR	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	ALPHA	20.000 DELAYN	8.940 DATASET	27.8000
□	BDFLAP	-11.700 SPOBRK	25.550 DATASET	49.6490
◇	BETA	.000 RUDDER	.000 DATASET	936.7000
△	CONF18	1.070	992891	1081.3900
▽			992897	.0000
			12.040	.0000
				SCALE

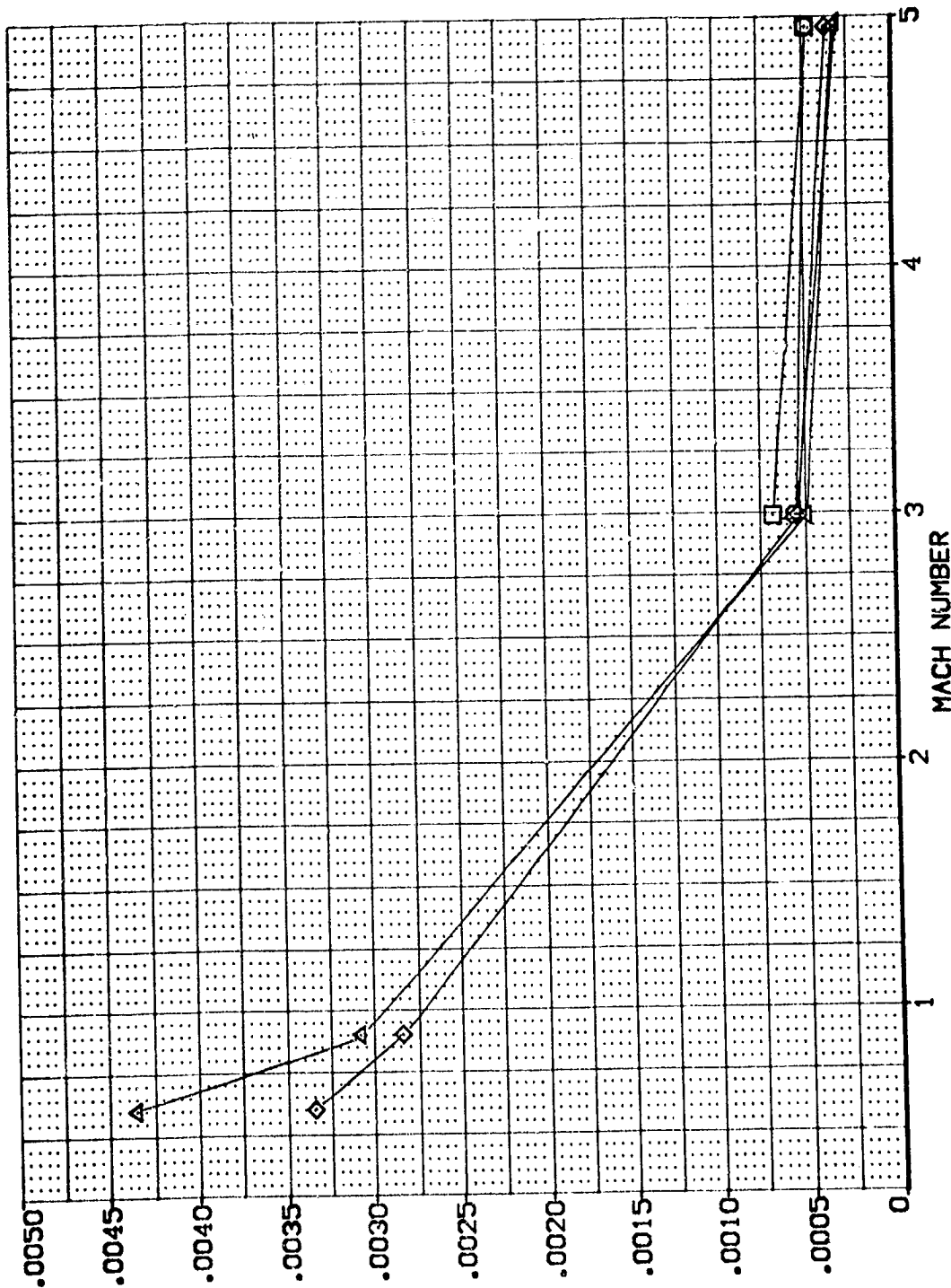


AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992891)

SYMBOL	ELEVTR	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
□	-24.640	ALPHA .000 DELAYN	ELEVTR	SREF 2741.8000 SQ. FT
◇	-14.270	BDFLAP -11.700 SPODBK	25.550 992891	LREF 481.6480 IN.
△	-5.800	BETA .000 RUDDER	.000 992891	BREF 536.7000 IN.
▽	4.400	CONF16 1.000	12.040	XREF 1081.3900 IN.
▽	12.040			YREF .0000 IN.
				ZREF .0000 IN.
				SCALE .0040

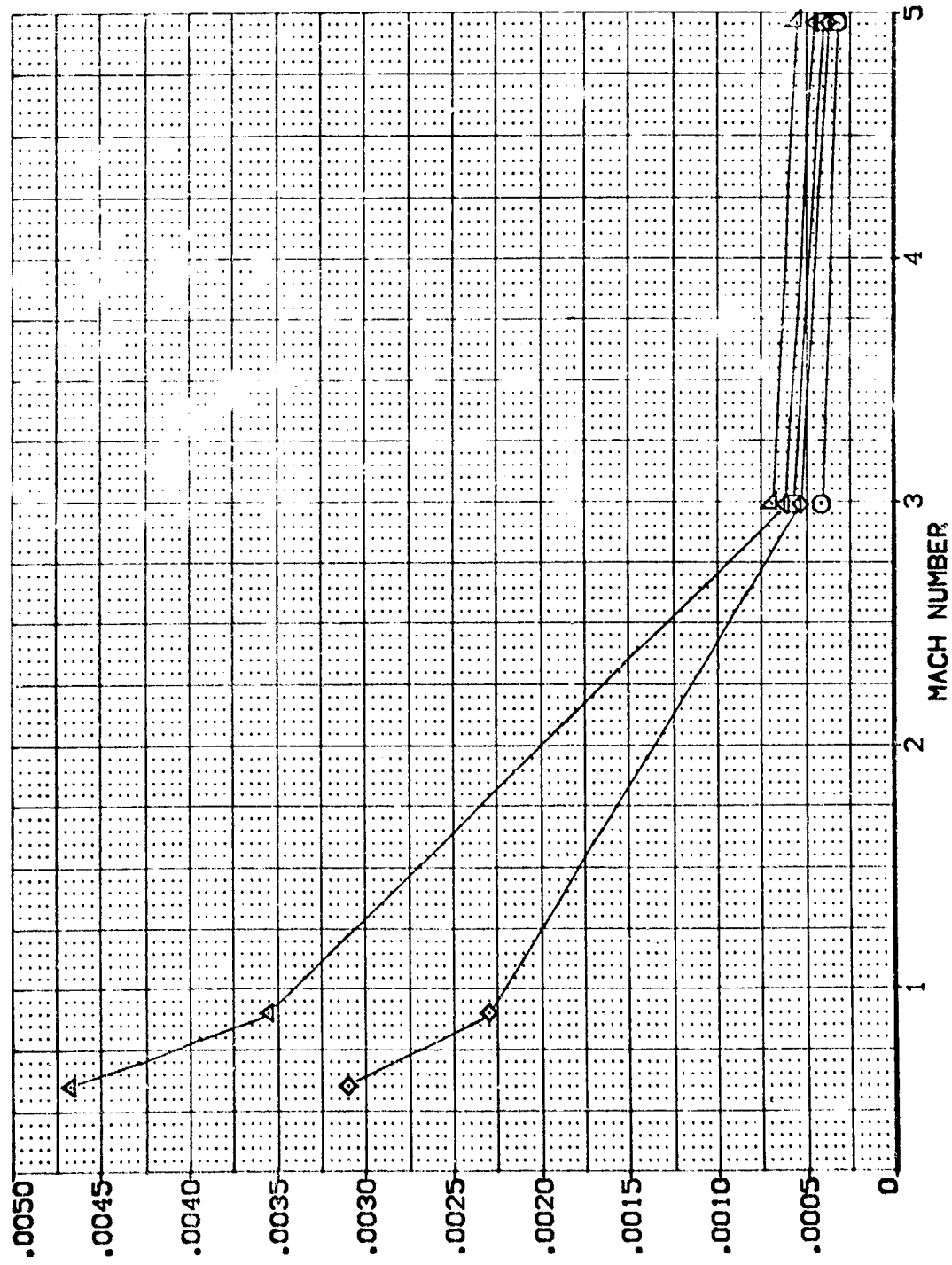
ROLLING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCBLDA



AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992891)

SYMBOL	ELEVTR	ALPHA	BOFLAP	BETA	CONF18	PARAMETRIC VALUES	0.940	DATA SOURCE	ELEVTR	DATA SET	ELEVTR	DATA SET	REFERENCE INFORMATION
○	-24.640	5.000	-11.700	SPDRBK	1.000	DELARN	25.550	992891	-24.640	992891	-14.270	992891	2741.8000
◇	-14.270	5.000	-5.830	RUDER	1.000	SPDRBK	.000	992891	-5.830	992891	1.000	992891	481.6400
△	4.400	1.000	CONF18				12.040	992891	12.040	992891			936.7000
													1081.3000
													.0000
													.0000
													.0000
													.0040

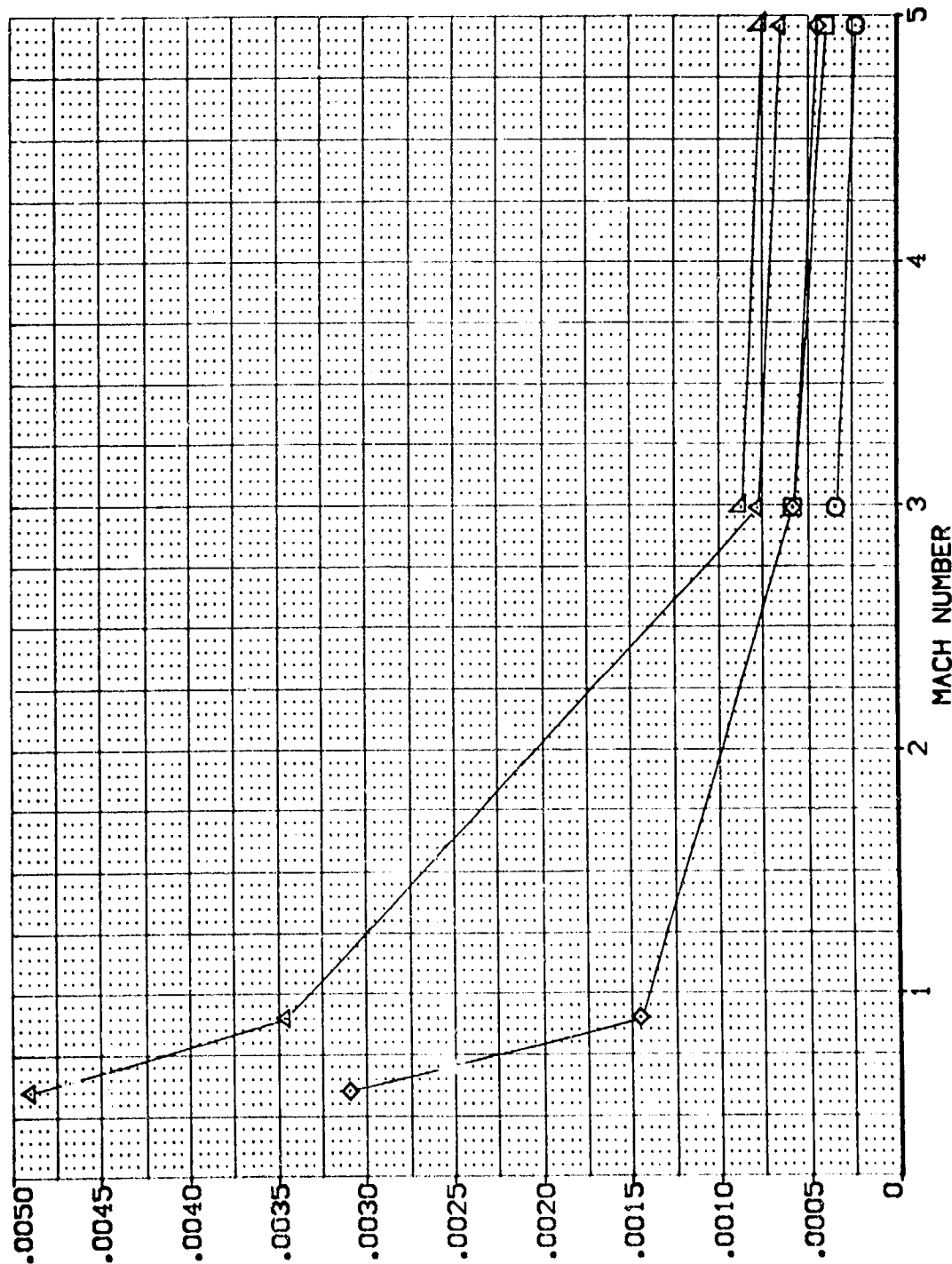


AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992B91)

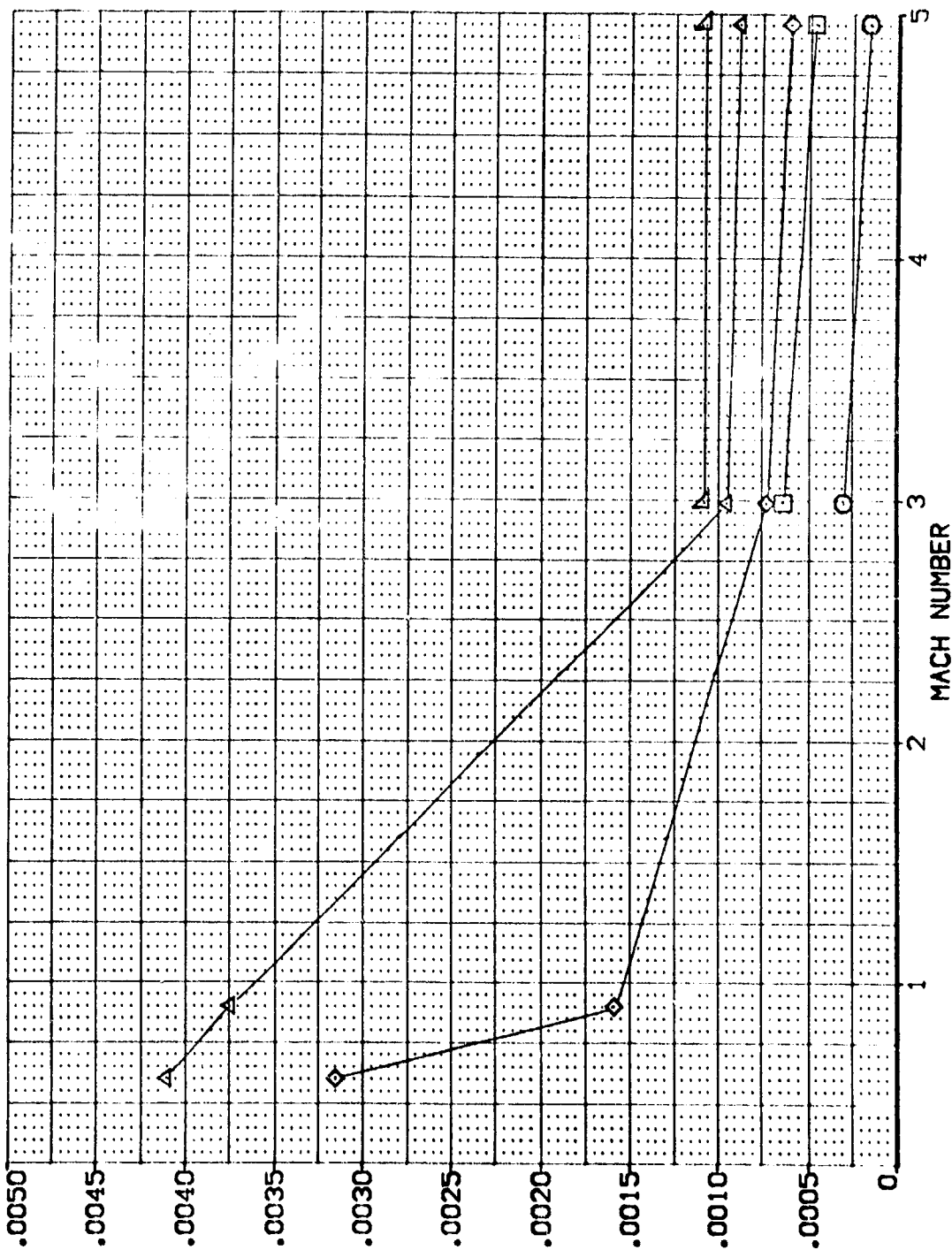
SYMBOL	ELEVTR	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	-24.640	ALPHA 10.000 DELARN	9.940 DATASET	2741.8000 SQ. FT
□	-14.270	BOFLAP -11.700 SPDRK	25.550 DATASET	481.6480 IN.
◇	-5.830	BETA .000 RUDDER	.000 DATASET	536.7000 IN.
△	4.400	CONF16 1.000	992B93	1081.3500 IN.
▽	12.040		992B97	.0000 IN.
			YMRP	.0000 IN.
			ZMRP	.0000 IN.
			SCALE	.0040

ROLLING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCBLDA



AILERON EFFECTIVENESS

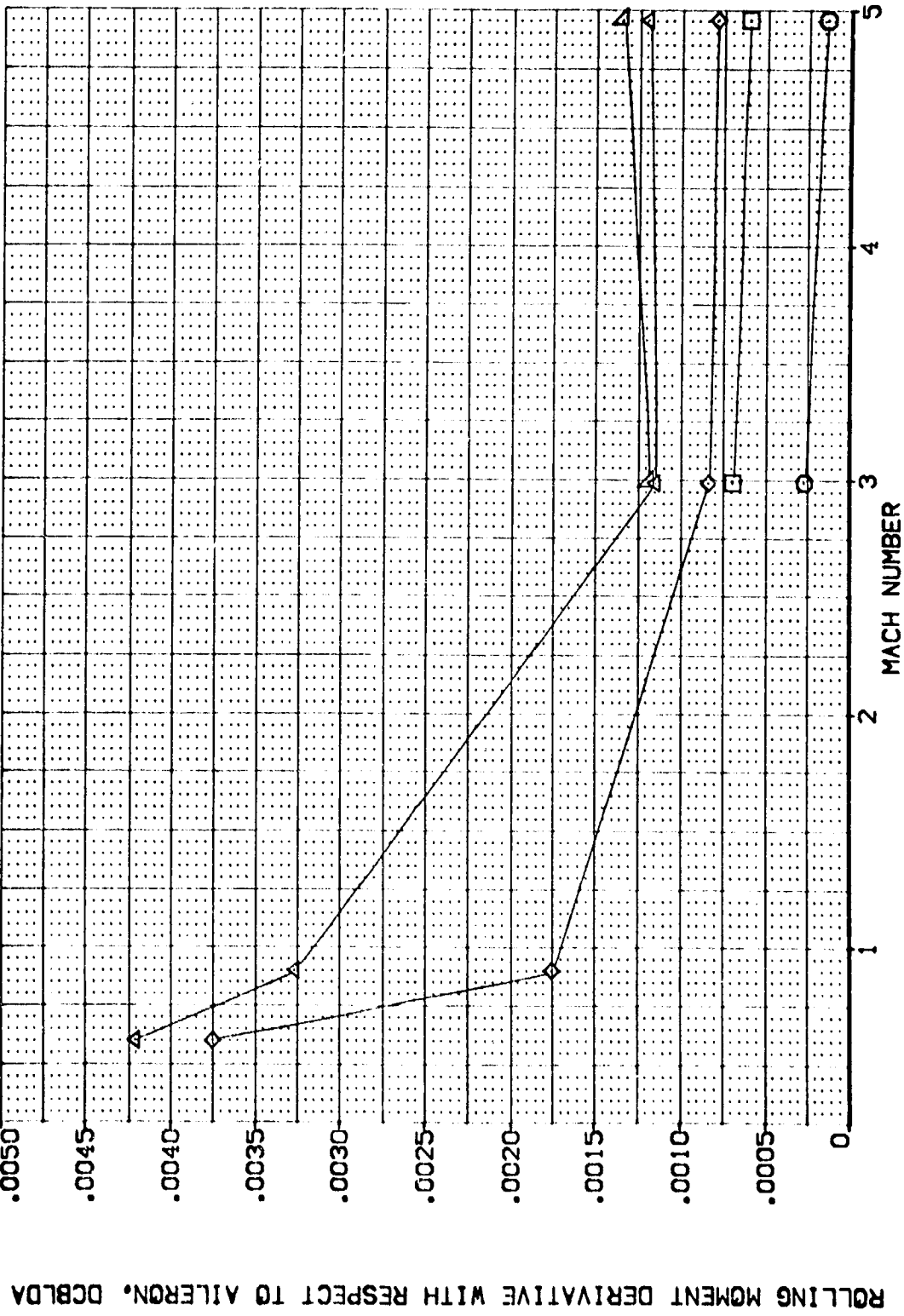
SYMBOL	ELEVTR	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	-24.640	ALPHA 15.000 DELARN	8.940 DATASET ELEVTR	2741.8000 SQ. FT
□	-14.270	BOFLAP -11.700 SPDRK	25.950 992091 -24.640	481.8490 IN.
◇	-5.830	BETA .000 RUDDER	.000 992095 -5.830	935.7000 IN.
▽	4.400	CONF16 1.000	.000 992093 12.040	1081.2500 IN.
	12.040			.0000 IN.
				.0040 IN.



AILERON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992B91)

PARAMETRIC VALUES				DATA SOURCE				REFERENCE INFORMATION			
SYMBOL	ELEVTR	ALPHA	20.000	DELARN	8.940	DATASET	ELEVTR	SREF	2741.8000	SO. FT	
	-24.640	BDFLAP	-11.700	SPDRK	25.550	992B91	-24.640	LREF	481.6480	IN.	
	-14.270	BETA	.000	RUDDR	.000	992B97	-14.270	BREF	936.7000	IN.	
	4.400	CONFIG	1.000				4.400	XPRP	1081.3900	IN.	
	12.040						12.040	YPRP	.0000	IN.	
								ZPRP	.0000	IN.	
								SCALE	.0040		



AILERON EFFECTIVENESS

DATA SET SYMBOL

CONFIGURATION DESCRIPTION

MSFC 501 (0A49) 003 34-0 (BCFM) (VE) (VR)
 MSFC 501 (0A49) 003 34-0 (BCFM) (VE) (VR)
 MSFC 501 (0A49) 003 34-0 (BCFM) (VE) (VR)
 MSFC 501 (0A49) 003 34-0 (BCFM) (VE) (VR)
 MSFC 501 (0A49) 003 34-0 (BCFM) (VE) (VR)
 MSFC 501 (0A49) 003 34-0 (BCFM) (VE) (VR)
 DATA NOT AVAILABLE

DELARN
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 5.570
 8.750
 9.950
 12.620
 14.860

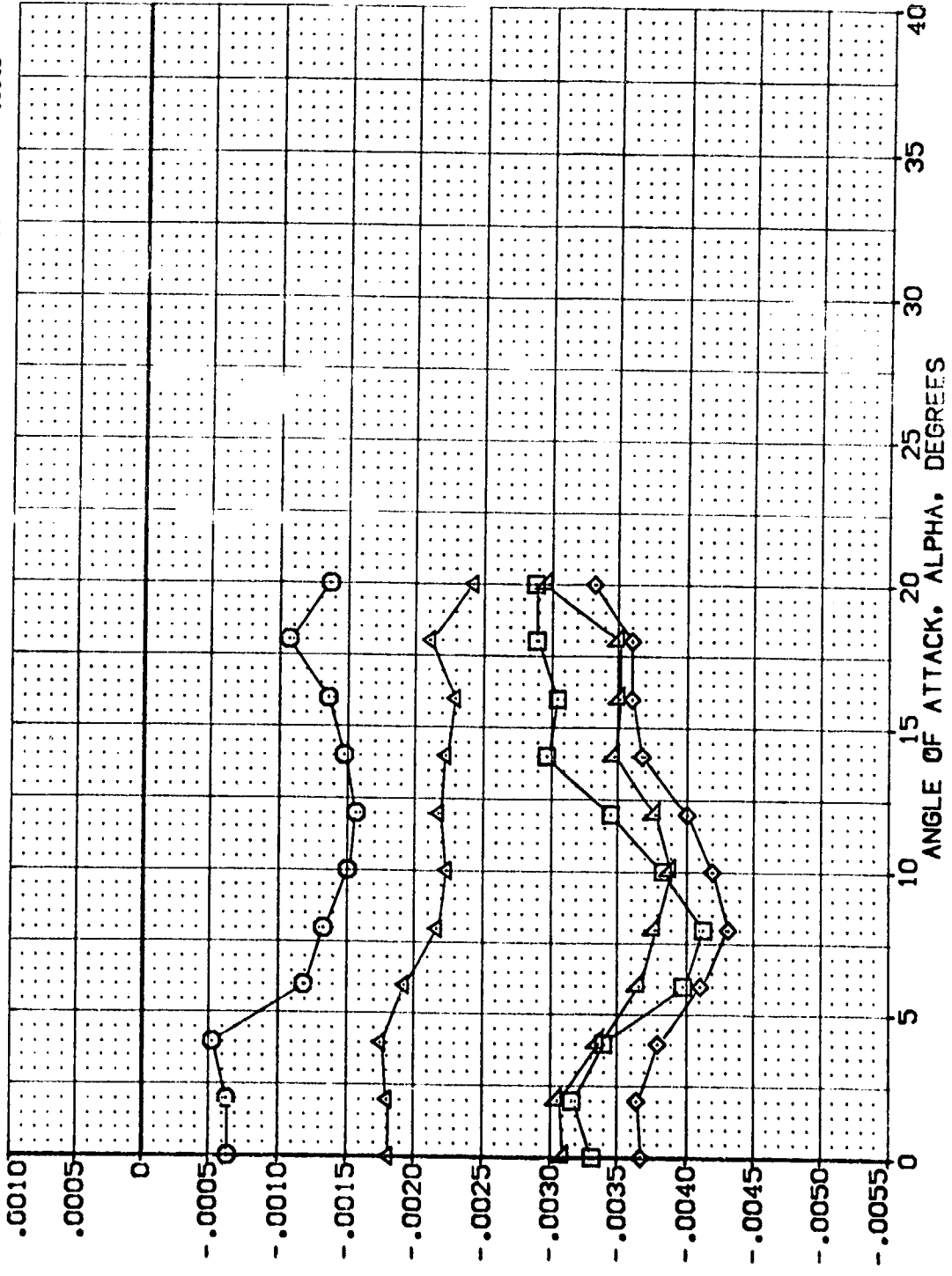
ELEVTR
 -5.000
 4.330
 4.400
 -5.830
 2.920
 -4.880

BOFLAP
 -11.700
 -11.700
 -11.700
 -11.700
 -11.700
 -11.700

SPDBRK
 25.550
 25.550
 25.550
 25.550
 25.550
 25.550

REFERENCE INFORMATION
 SREF 2741.8000 50. FT
 LREF 481.6400 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA



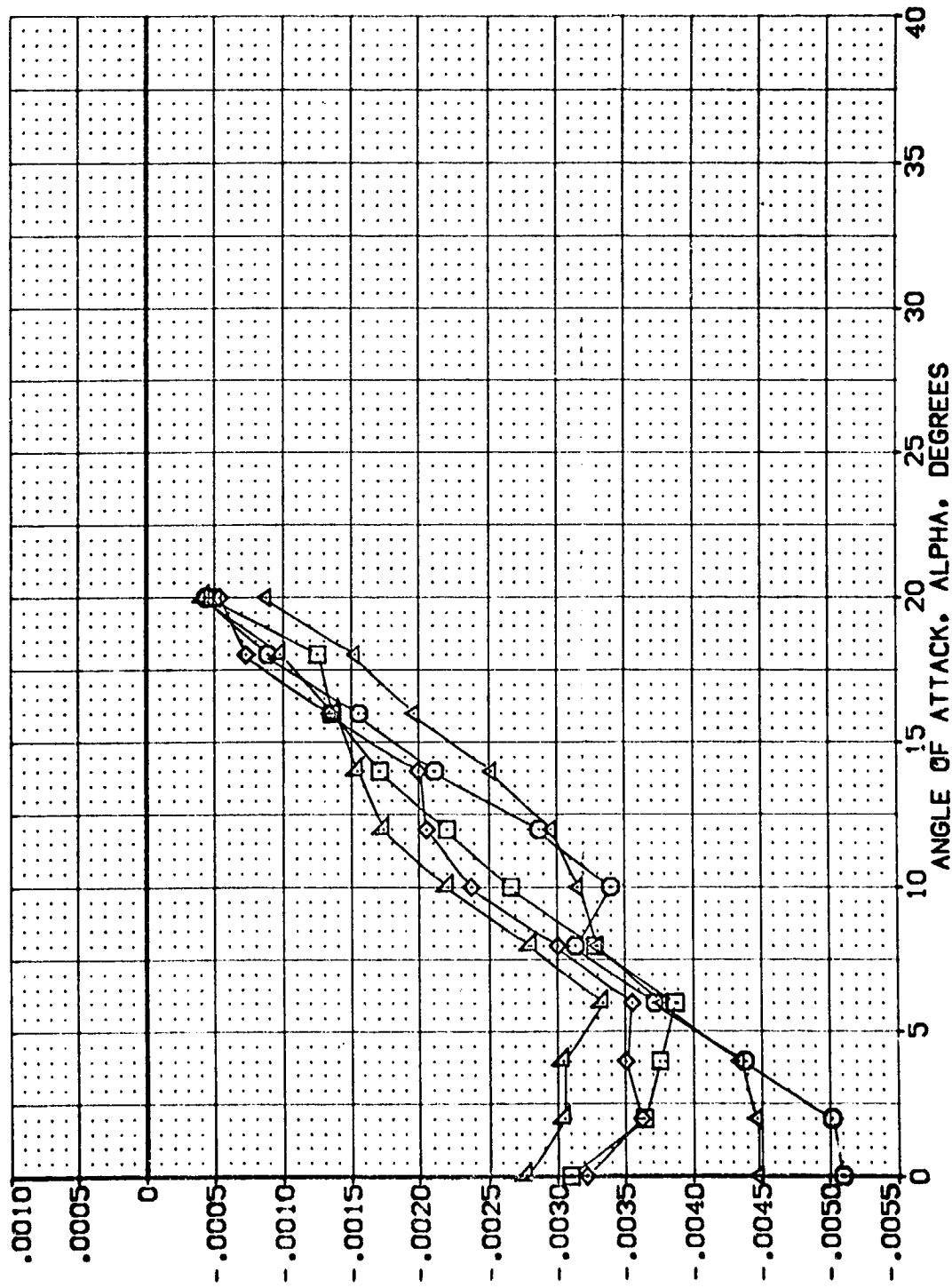
LINEAR RANGE OF AILERONS

(M)MACH = .60

DATA SET SYMBO. CONFIGURATION DESCRIPTION

DATA SET SYMBO.	CONFIGURATION DESCRIPTION	DELARN	ELEVTR	BOFLAP	SFOBRK	REFERENCE INFORMATION
[P52005]	HEFC 591 (0A49) 0R3 34-0 (BOTH)(VE)(VR)	4.910	-5.000	-11.700	25.550	SREF 2741.8000 SQ. FT
[P52007]	HEFC 591 (0A49) 0R3 34-0 (BOTH)(VE)(VR)	5.570	4.350	-11.700	25.550	LREF 481.6480 IN.
[P52009]	HEFC 591 (0A49) 0R3 34-0 (BOTH)(VE)(VR)	8.750	4.400	-11.700	25.550	BREF 936.7000 IN.
[P52011]	HEFC 591 (0A49) 0R3 34-0 (BOTH)(VE)(VR)	9.650	-5.820	-11.700	25.550	VRFP 1081.3900 IN.
[P52013]	HEFC 591 (0A49) 0R3 34-0 (BOTH)(VE)(VR)	12.630	2.820	-11.700	25.550	VRFP .0000 IN.
[P52101]	DATA NOT AVAILABLE	14.660	-4.580	-11.700	25.550	VRFP .0040 IN.

SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA



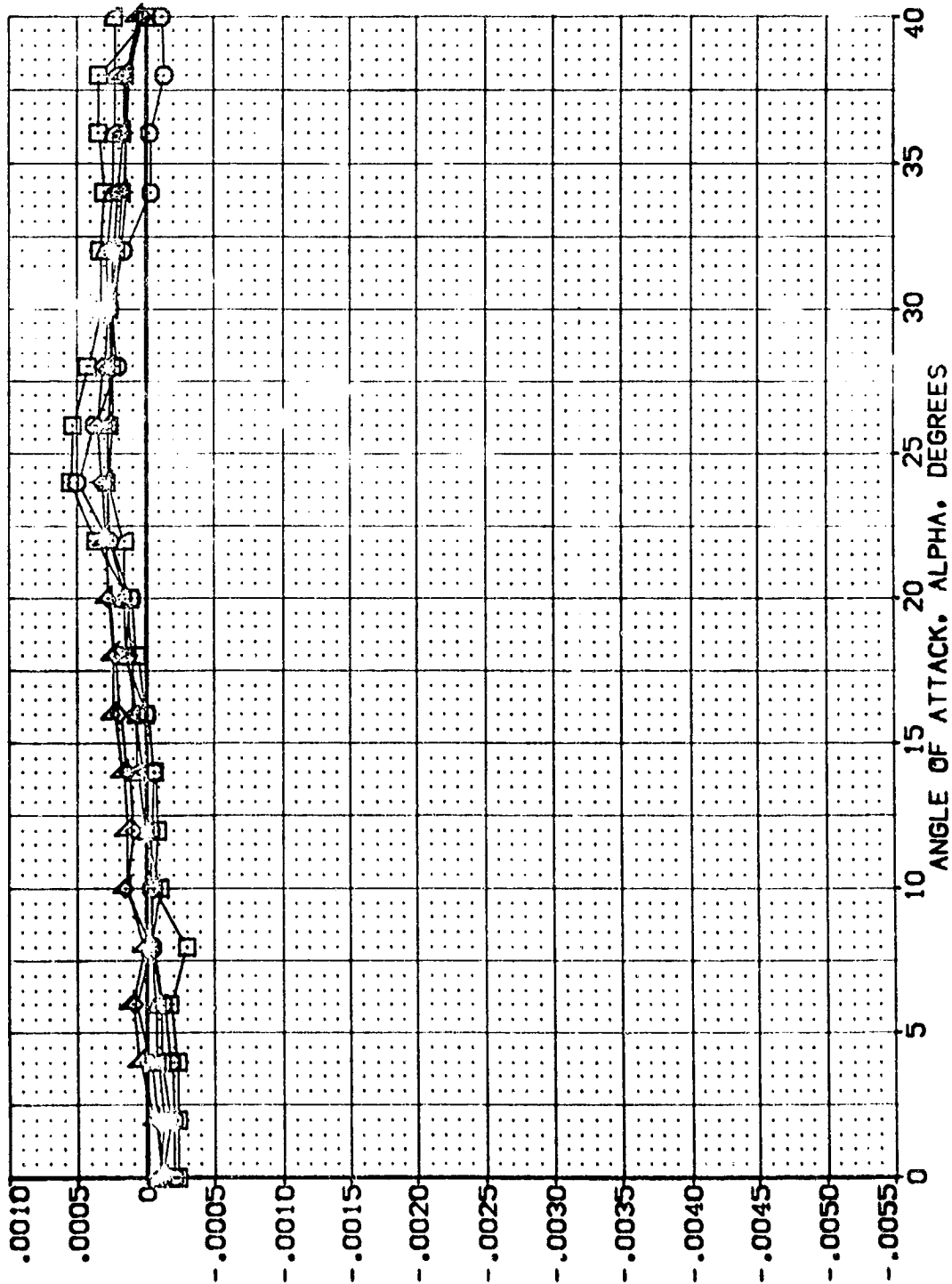
LINEAR RANGE OF AILERONS

(B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA IN	ELEVTR	BOFLAP	SPOBRK	REFERENCE INFORMATION
{P2005}	MSTC 531(0A49) 053 34-0 (BDPH)(VE)(VR)	4.910	-5.000	-1.700	23.550	SREF 2741.8000 SQ. FT
{P2057}	MSTC 531(0A49) 053 34-0 (BDPH)(VE)(VR)	5.570	4.360	-1.700	23.550	LREF 491.6460 IN.
{P2057}	MSTC 531(0A49) 053 34-0 (BDPH)(VE)(VR)	8.750	4.400	-1.700	23.550	BREF 536.7000 IN.
{P2057}	MSTC 531(0A49) 053 34-0 (BDPH)(VE)(VR)	9.530	-5.830	-1.700	23.550	XMRP 1.081.3500 IN.
{P2103}	MSTC 531(0A49) 053 34-0 (BDPH)(VE)(VR)	12.630	2.920	-1.700	23.550	YMRP 0.000 IN.
{P2101}	MSTC 531(0A49) 053 34-0 (BDPH)(VE)(VR)	14.660	-4.980	-1.700	23.550	ZMRP 0.000 IN.
						SCALE .0040

SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA

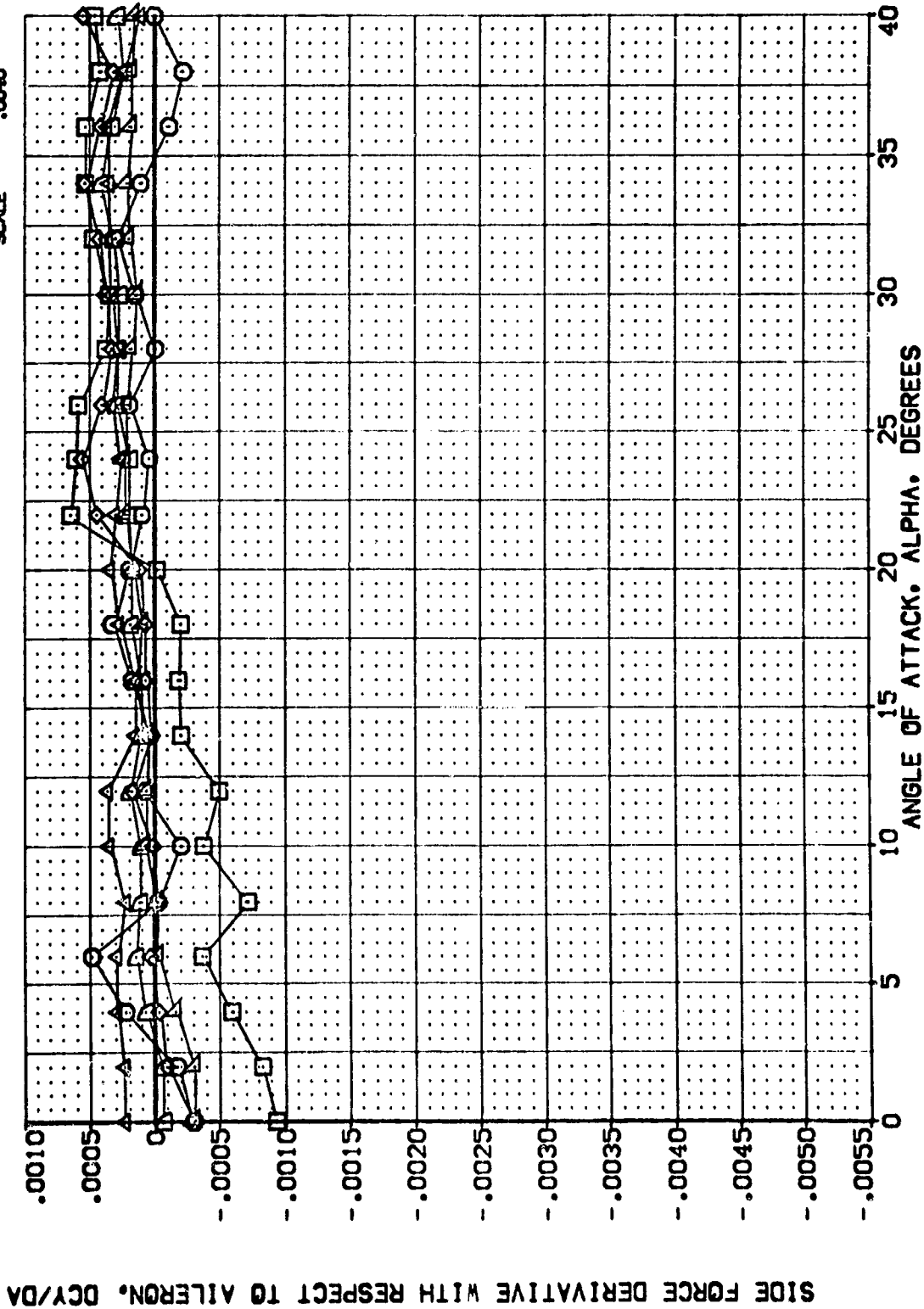


LINEAR RANGE OF AILERONS

(C)MACH = 2.99

DATA SET SYMBOL CONFIGURATION DESCRIPTION DELAIN ELEVTR BOFLAP SPIDBRK REFERENCE INFORMATION SQ. FT

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELAIN	ELEVTR	BOFLAP	SPIDBRK	REFERENCE INFORMATION	SQ. FT
[P22055]	P2C 501 (CA49) 028 34-0 (BDTH)(VE)(VR)	4.910	-5.000	-11.700	25.550	SREF	2741.8000
[P22056]	P2C 501 (CA49) 028 34-0 (BDTH)(VE)(VR)	5.570	4.350	-11.700	25.550	LREF	481.6400
[P22057]	P2C 501 (CA49) 028 34-0 (BDTH)(VE)(VR)	8.750	4.100	-11.700	25.550	BREF	936.7000
[P22058]	P2C 501 (CA49) 028 34-0 (BDTH)(VE)(VR)	9.650	-5.800	-11.700	25.550	RREF	1081.3500
[P22103]	P2C 501 (CA49) 028 34-0 (BDTH)(VE)(VR)	12.650	-2.900	-11.700	25.550	TRAP	.0000
[P22101]	P2C 501 (CA49) 028 34-0 (BDTH)(VE)(VR)	14.650	-4.980	-11.700	25.550	ZTRP	.0000
						SCALE	.0040



LINEAR RANGE OF AILERONS

(0)MACH = 4.96

DATA SET SYMBOL:   

CONFIGURATION DESCRIPTION:
 HPTC 501(0A49) DB 3A-0 (BCH)(VE)(VR)
 HPTC 501(0A49) DB 3A-0 (BCH)(VE)(VR)
 HPTC 501(0A49) DB 3A-0 (BCH)(VE)(VR)
 HPTC 501(0A49) DB 3A-0 (BCH)(VE)(VR)
 HPTC 501(0A49) DB 3A-0 (BCH)(VE)(VR)
 HPTC 501(0A49) DB 3A-0 (BCH)(VE)(VR)
 DATA NOT AVAILABLE

REFERENCE INFORMATION:
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XTRP 1081.3500 IN.
 YTRP .0000 IN.
 ZTRP .0000 IN.
 SCALE .0040

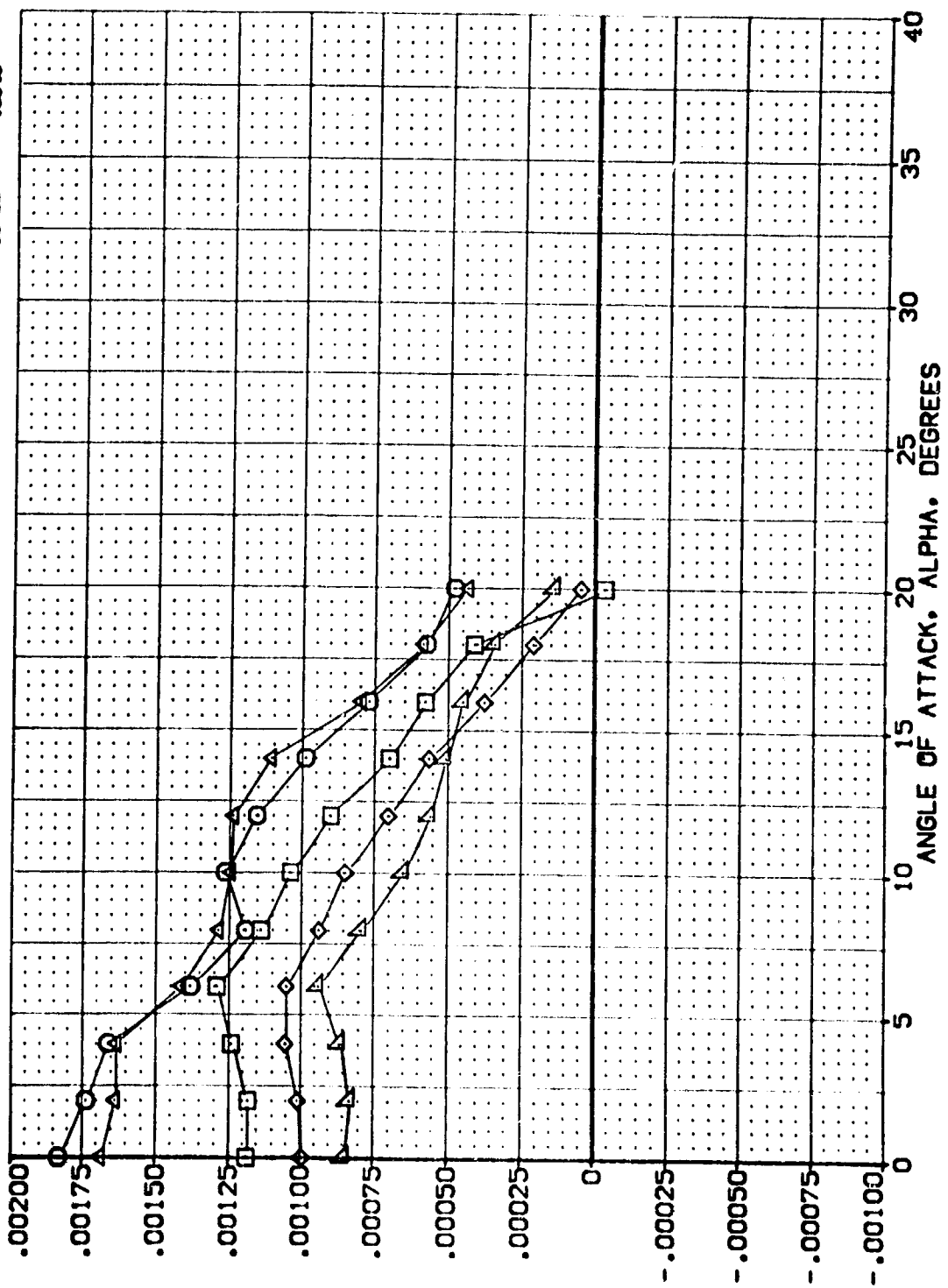
DELTA: 1.910
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 8.750
 9.550
 12.850
 14.850

ELEVTR: 5.000
 4.350
 4.400
 5.830
 2.520
 4.580

BOFLAP: -11.700
 -11.700
 -11.700
 -11.700
 -11.700
 -11.700

SPDBK: 25.550
 25.550
 25.550
 25.550
 25.550
 25.550

YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYNDA



LINEAR RANGE OF AILERONS

(B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION DELTA IN ELEVTR BOFLAP \$POBPK REFERENCE INFORMATION SQ. FT

(P2005) [] HSTC S31(CA49) C53 34-0 (BDFH)(VE)(VR) 4.910 -5.000 -11.700 25.550 SPREF 2741.8000 IN.

(P2007) [] HSTC S31(CA49) C53 34-0 (BDFH)(VE)(VR) 5.570 4.350 -11.700 25.550 LREF 481.6480 IN.

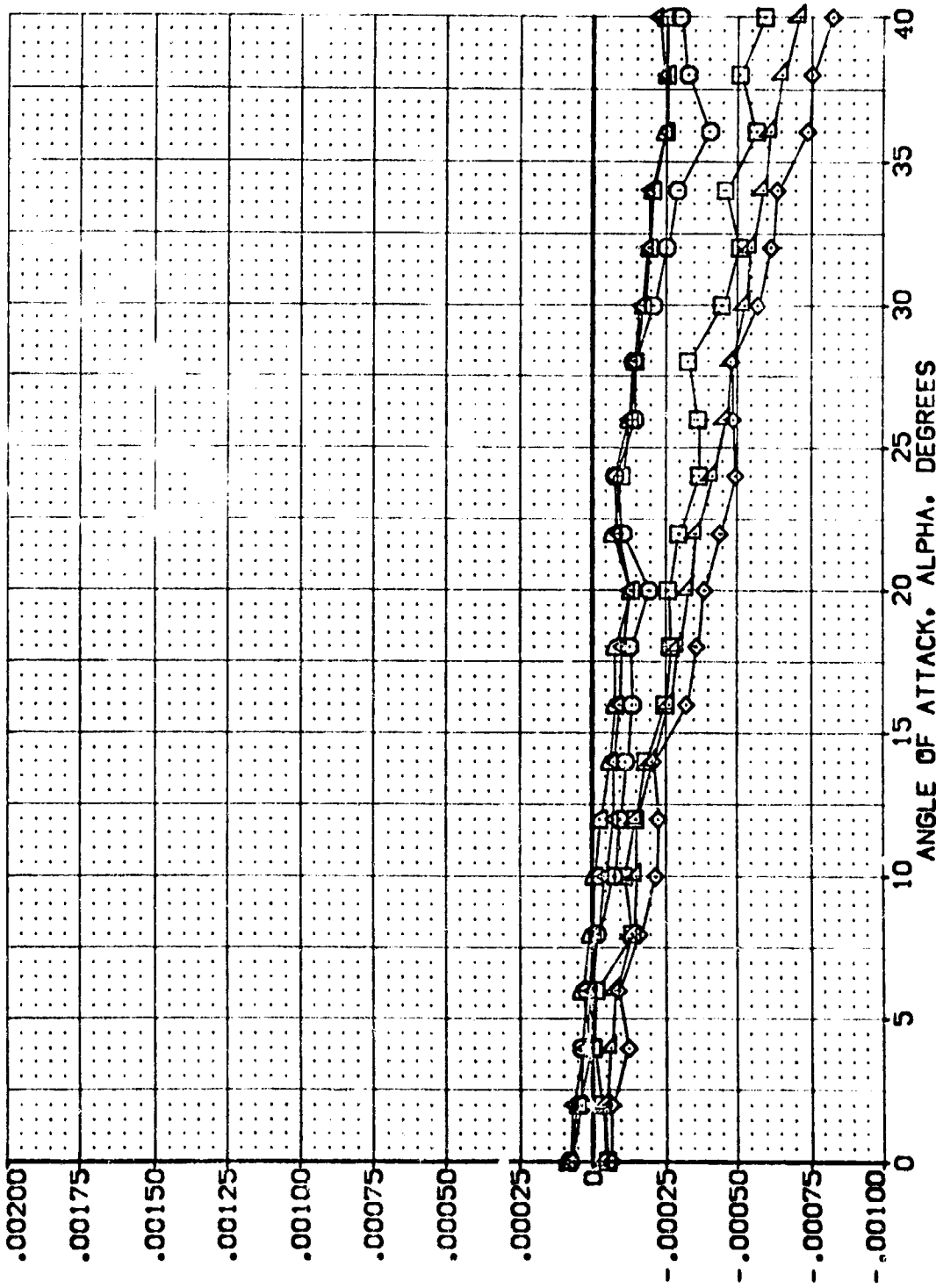
(P2009) [] HSTC S31(CA49) C53 34-0 (BDFH)(VE)(VR) 8.750 4.400 -11.700 25.550 BREF 526.7000 IN.

(P2011) [] HSTC S31(CA49) C53 34-0 (BDFH)(VE)(VR) 9.950 -5.830 -11.700 25.550 XMRP 1741.3500 IN.

(P2013) [] HSTC S31(CA49) C53 34-0 (BDFH)(VE)(VR) 12.650 2.920 -11.700 25.550 YMRP .0000 IN.

(P2015) [] HSTC S31(CA49) C53 34-0 (BDFH)(VE)(VR) 14.850 -4.980 -11.700 25.550 ZMRP .0000 IN.

SCALE .0040



LINEAR RANGE OF AILERONS

(C)MACH = 2.99

DATA SET SYMBOL: **0004**

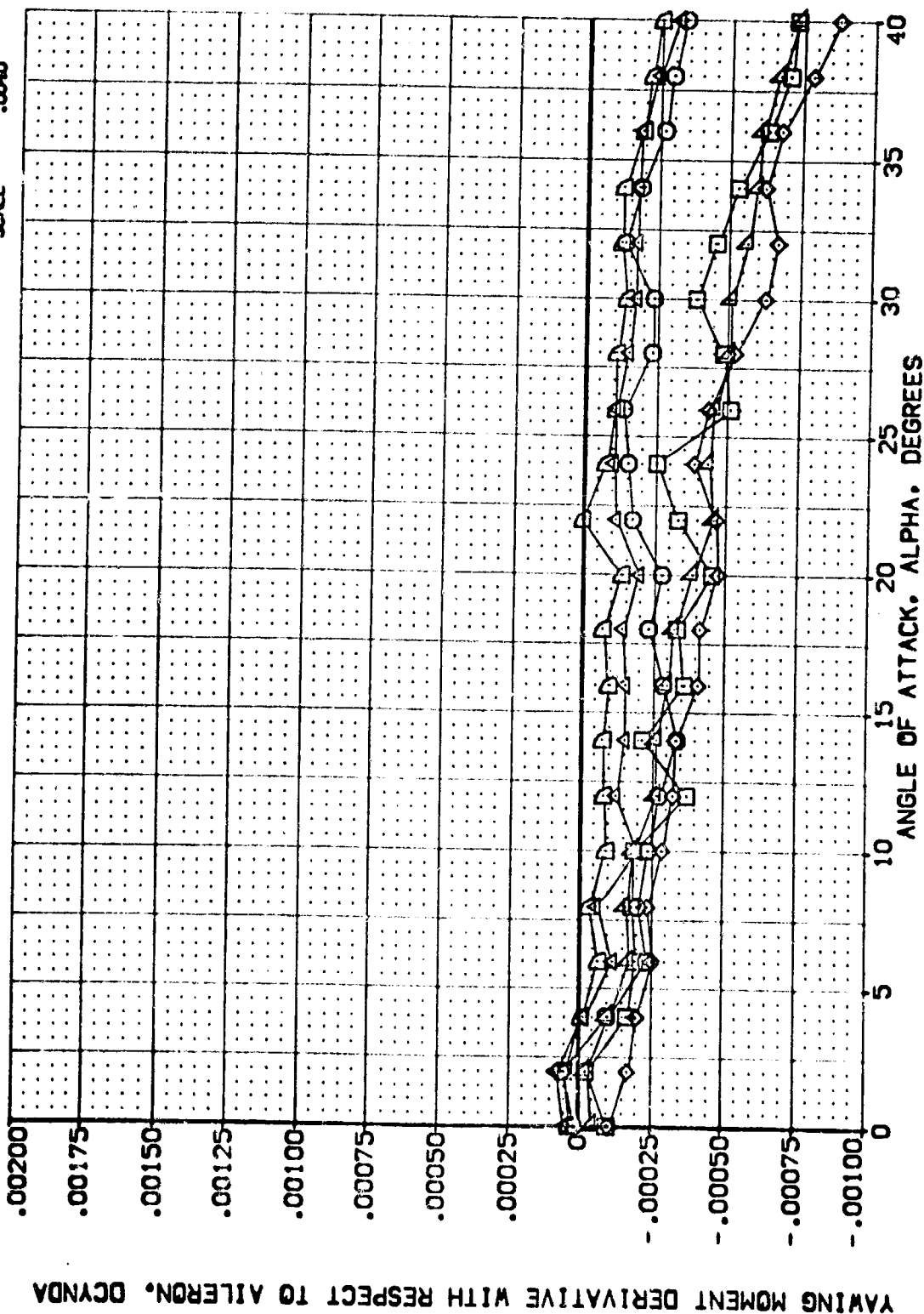
CONFIGURATION DESCRIPTION:

SYMBOL	DESCRIPTION
197C 501 (0419)	073 34-0 (BOTH) (VE) (VR)
197C 502 (0419)	073 34-0 (BOTH) (VE) (VR)
197C 503 (0419)	073 34-0 (BOTH) (VE) (VR)
197C 504 (0419)	073 34-0 (BOTH) (VE) (VR)
197C 505 (0419)	073 34-0 (BOTH) (VE) (VR)
197C 506 (0419)	073 34-0 (BOTH) (VE) (VR)
197C 507 (0419)	073 34-0 (BOTH) (VE) (VR)

REFERENCE INFORMATION:

SYMBOL	VALUE	UNIT
SREF	2741	8000
LREF	48	6400
BREF	936	7000
XTRP	1081	3500
YTRP	0	0000
ZTRP	0	0000
SCALE	0.0040	

DELTA IN: 4.910
ELEV IN: -5.000
BOFLAP: -11.700
SPDRN: 25.950

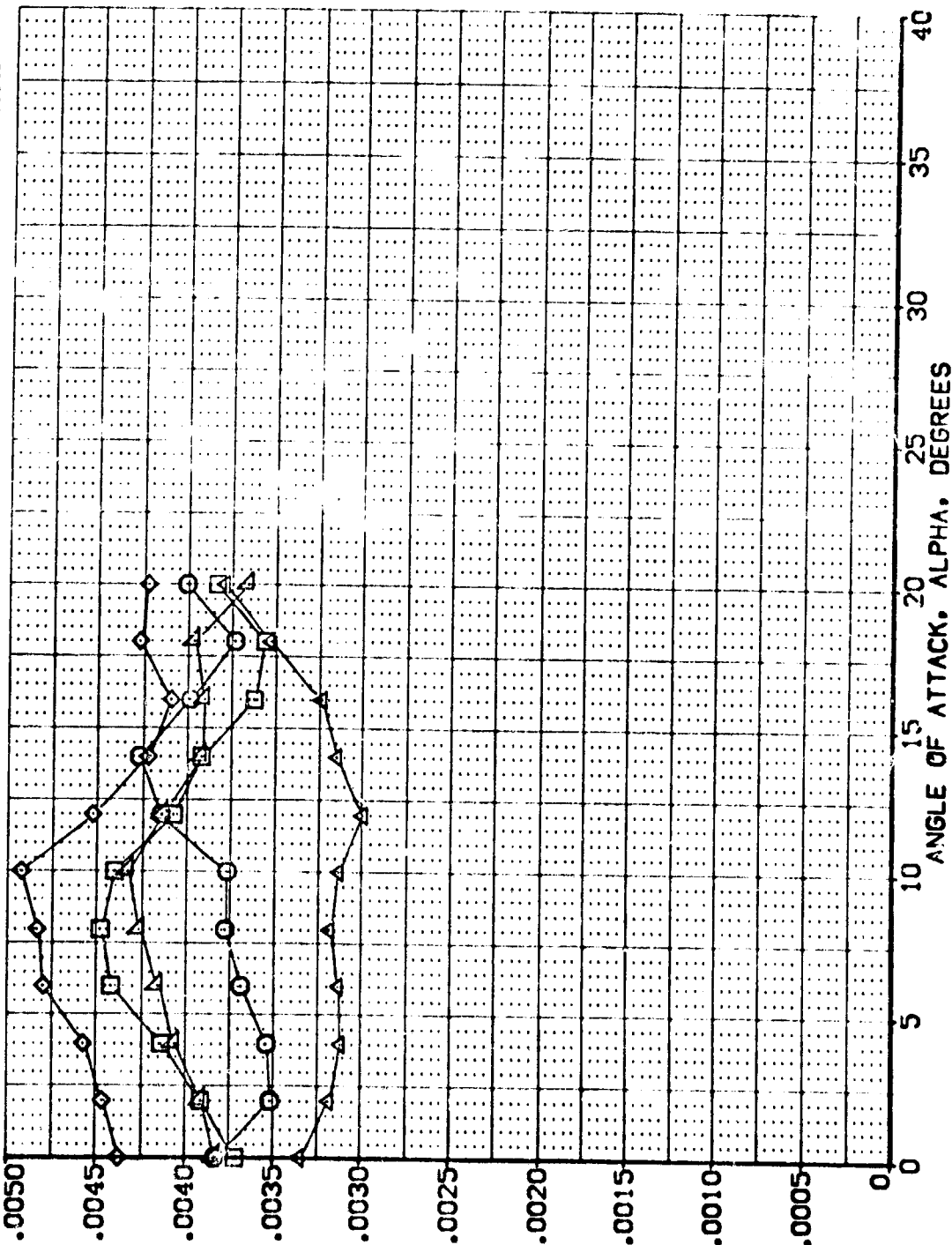


LINEAR RANGE OF AILERONS

(D)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (PS2005) 0 0 0 3A-0 (BDTH)(VE)(VR)
 (PS2037) 0 0 0 3A-0 (BDTH)(VE)(VR)
 (PS2037) 0 0 0 3A-0 (BDTH)(VE)(VR)
 (PS2037) 0 0 0 3A-0 (BDTH)(VE)(VR)
 (PS2103) 0 0 0 3A-0 (BDTH)(VE)(VR)
 (PS2103) 0 0 0 3A-0 (BDTH)(VE)(VR)
 DATA NOT AVAILABLE

DELTA REFERENCE INFORMATION
 4.910 SREF 2741.6000 SQ. FT
 5.570 LREF 481.6480 IN.
 8.750 BREF 936.7000 IN.
 9.650 XMRP 1081.0000 IN.
 12.850 YMRP 0.0000 IN.
 14.850 ZMRP 0.0000 IN.
 SCALE 0.0040



ROLLING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCBLDA

LINEAR RANGE OF AILERONS

(A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[PS2025] MSFC S31(CA49) CRB 34-0 (BOFH)(NE)(VR)
 [PS2027] MSFC S31(CA49) CRB 34-0 (BOFH)(NE)(VR)
 [PS2057] MSFC S31(CA49) CRB 34-0 (BOFH)(NE)(VR)
 [PS2055] MSFC S31(CA49) CRB 34-0 (BOFH)(NE)(VR)
 [PS2103] MSFC S31(CA49) CRB 34-0 (BOFH)(NE)(VR)
 [PS2101] DATA NOT AVAILABLE

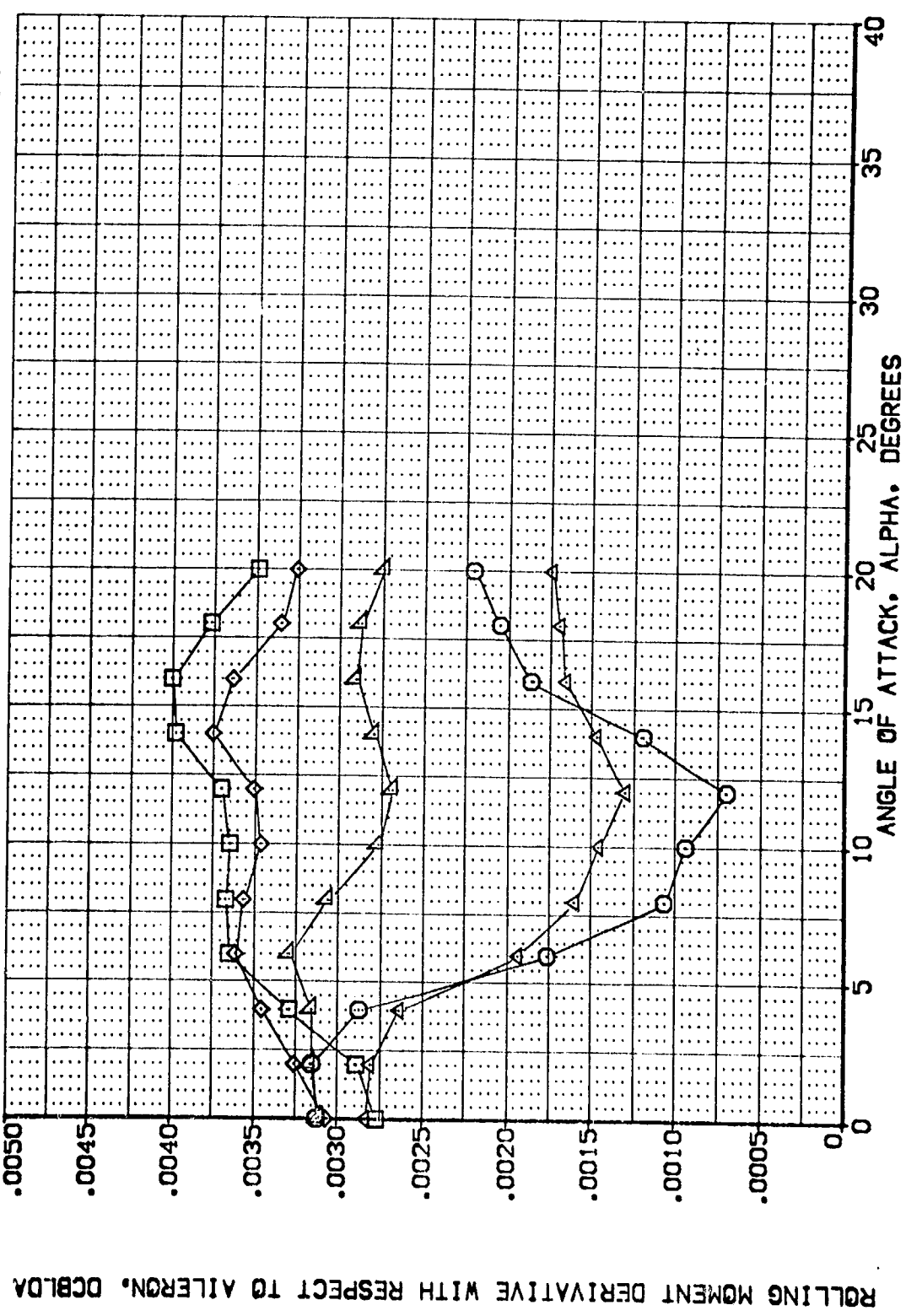
DELARN 4.910
 5.570
 8.750
 9.550
 12.880
 14.860

ELEVTR -5.000
 4.360
 4.400
 3.830
 2.520
 -4.980

BOFLAP -11.700
 -11.700
 -11.700
 -11.700
 -11.700
 -11.700

SPDBRK 25.550
 25.550
 25.550
 25.550
 25.550
 25.550

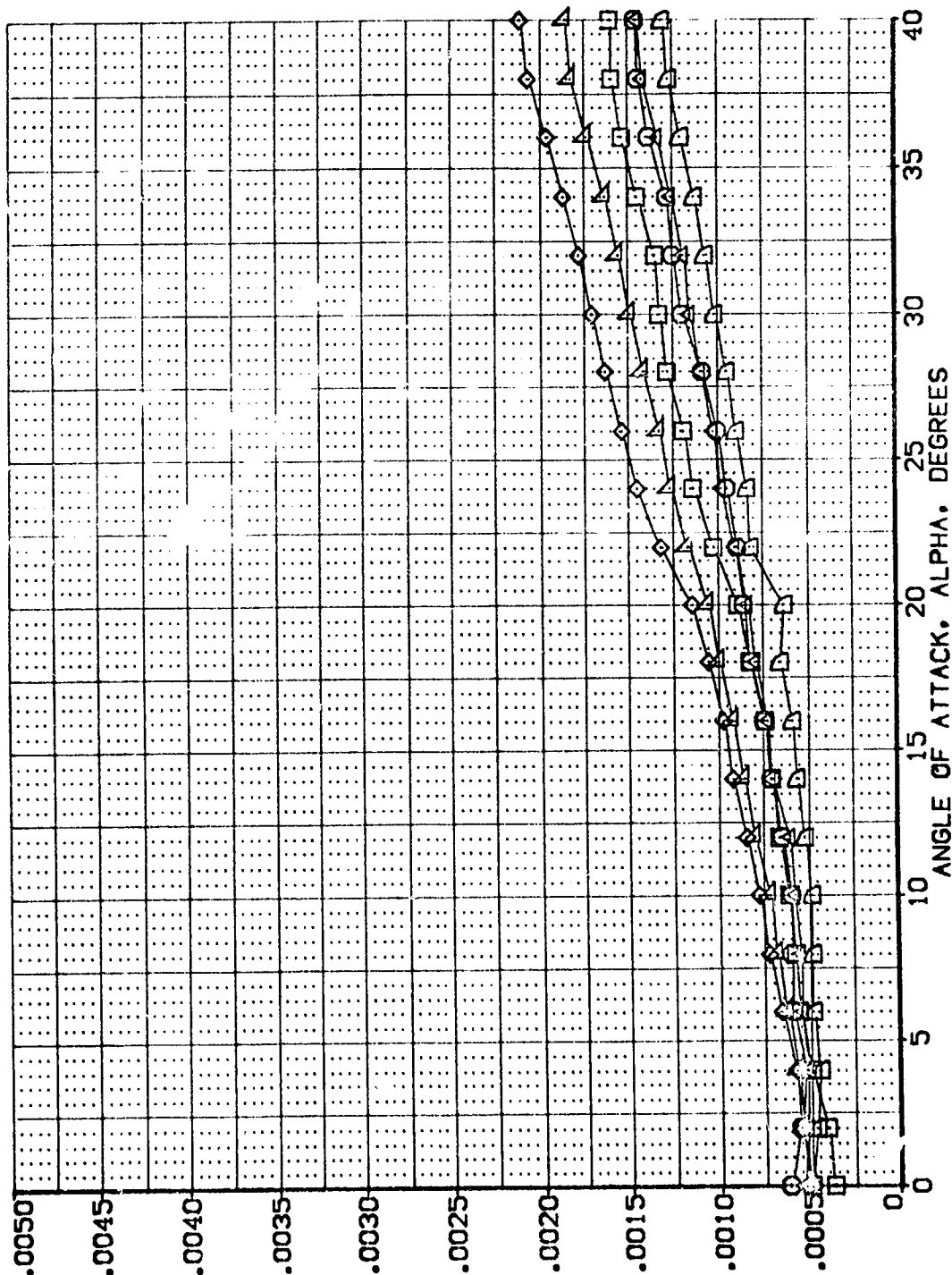
REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



LINEAR RANGE OFAILERONS

(B)MACH = .90

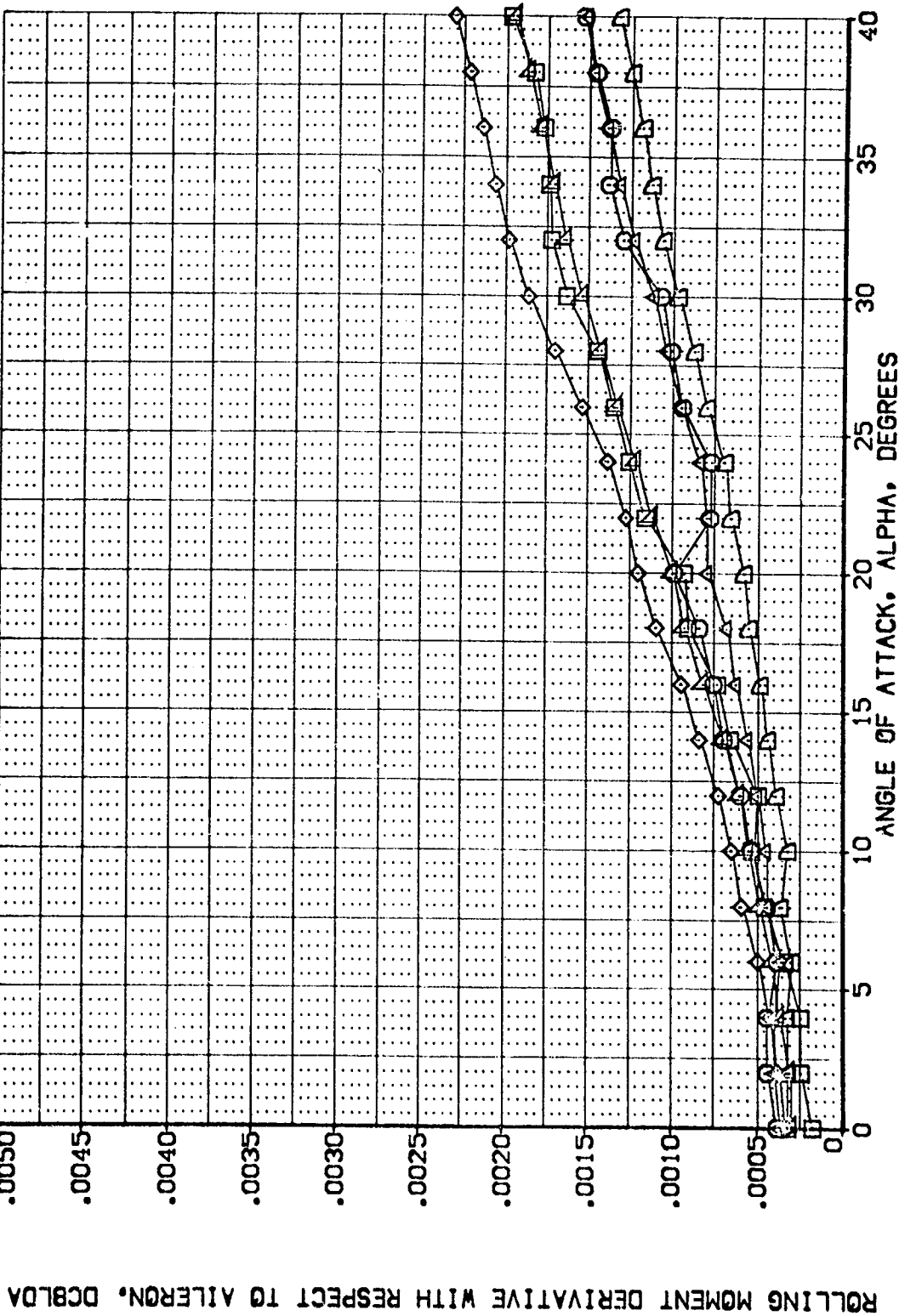
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA	ELEVTR	BOFLAP	SPDBRK	REFERENCE INFORMATION
{P92025}	MSC 531 (0A49) 078 34-0 (BCFM) (VE) (VR)	4.910	-5.000	-11.700	25.550	SREF 2741.8000
{P92037}	MSC 531 (0A49) 078 34-0 (BCFM) (VE) (VR)	5.570	4.250	-11.700	25.550	LREF 491.6480
{P92057}	MSC 531 (0A49) 078 34-0 (BCFM) (VE) (VR)	8.750	4.400	-11.700	25.550	BREF 506.7000
{P92055}	MSC 531 (0A49) 078 34-0 (BCFM) (VE) (VR)	9.950	-3.830	-11.700	25.550	YMRP 1081.5500
{P92103}	MSC 531 (0A49) 078 34-0 (BCFM) (VE) (VR)	12.850	2.520	-11.700	25.550	ZMRP .0000
{P92101}	MSC 531 (0A49) 078 34-0 (BCFM) (VE) (VR)	14.850	-4.580	-11.700	25.550	SCALE .0040



LINEAR RANGE OF AILERONS

(C)MACH = 2.99

DATA SET SYMBL	CONFIGURATION DESCRIPTION	DELARN	ELEVTR	BOFLAP	SPDRK	REFERENCE INFORMATION	SO: FT
[P52085]	MSFC 591(DA49) 078 34-0 (BOH)(VE)(VR)	4.910	-5.000	-11.700	25.550	SREF	2741.8000
[P52087]	MSFC 591(DA49) 078 34-0 (BOH)(VE)(VR)	5.570	4.360	-11.700	25.550	LREF	481.6480
[P52089]	MSFC 591(DA49) 078 34-0 (BOH)(VE)(VR)	8.750	4.400	-11.700	25.550	BREF	936.7000
[P52091]	MSFC 591(DA49) 078 34-0 (BOH)(VE)(VR)	9.850	-5.600	-11.700	25.550	XMRP	1081.3900
[P52103]	MSFC 591(DA49) 078 34-0 (BOH)(VE)(VR)	12.860	2.520	-11.700	25.550	YMRP	.0000
[P52101]	MSFC 591(DA49) 078 34-0 (BOH)(VE)(VR)	14.860	-4.980	-11.700	25.550	ZMRP	.0000
					SCALE		.0040



LINEAR RANGE OF AILERONS

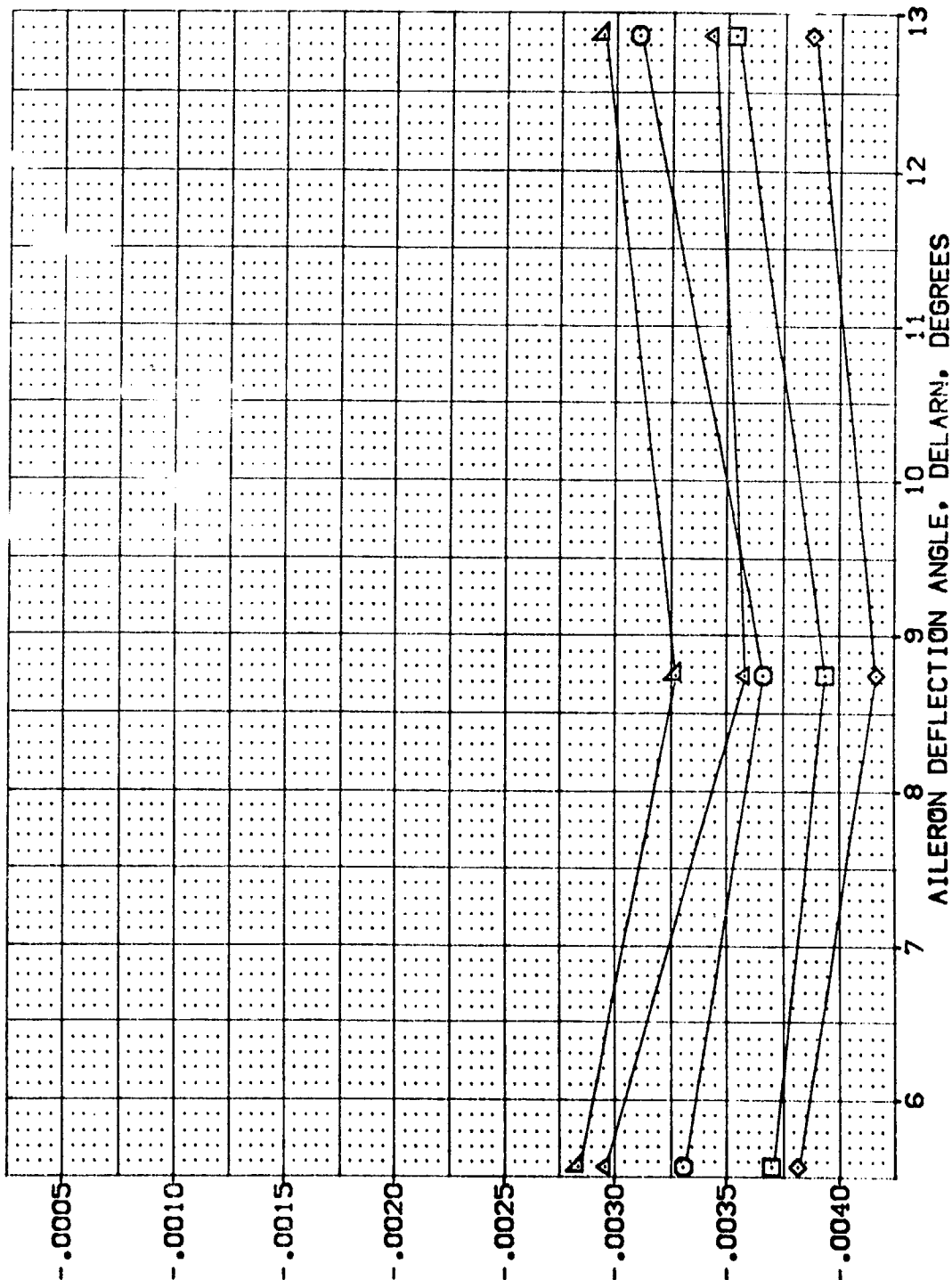
(C)MACH = 4.96

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

(992087)

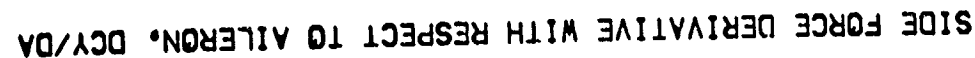
SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	.000	.600	ELEVTR	DELARN	SREF 2741.8000
□	5.000	-11.700	SPOBRK	DELARN	LREF 481.6480
◇	10.000	.000	RUDER	DELARN	BREF 936.7000
△	15.000	1.000		DELARN	XMRP 1081.3900
▽	20.000			DELARN	YMRP .0000
				DELARN	ZMRP .0040
				DELARN	SCALE

SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA



LINEAR RANGE OF AILERONS

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PAGE 785

MSFC 581(0A49) ORB 34-0 (BCFM)(WE3)(VR) (992087)

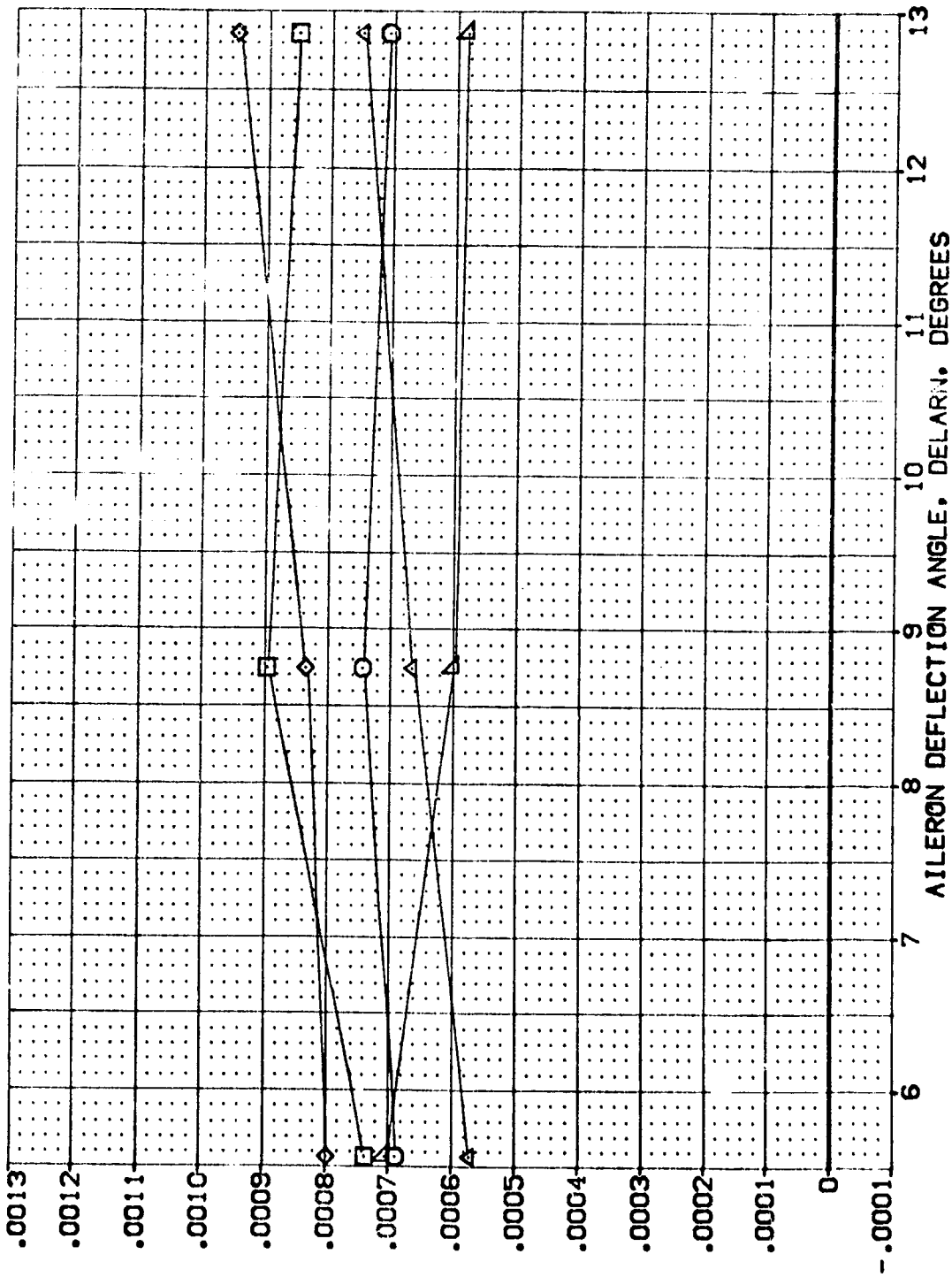
SYMBOL
 O
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PARAMETRIC VALUES
 MACH .600
 BDFLAP -11.700
 BETA .000
 CONF16 1.000

DATA SOURCE
 4.360 DATASET
 25.550 992087
 .000 992103

DELARN 5.570
 12.650
 REF
 2741.8000
 481.8150
 525.7000
 1581.3500
 .0000
 .0000
 .0040

YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYND



LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

(392087)

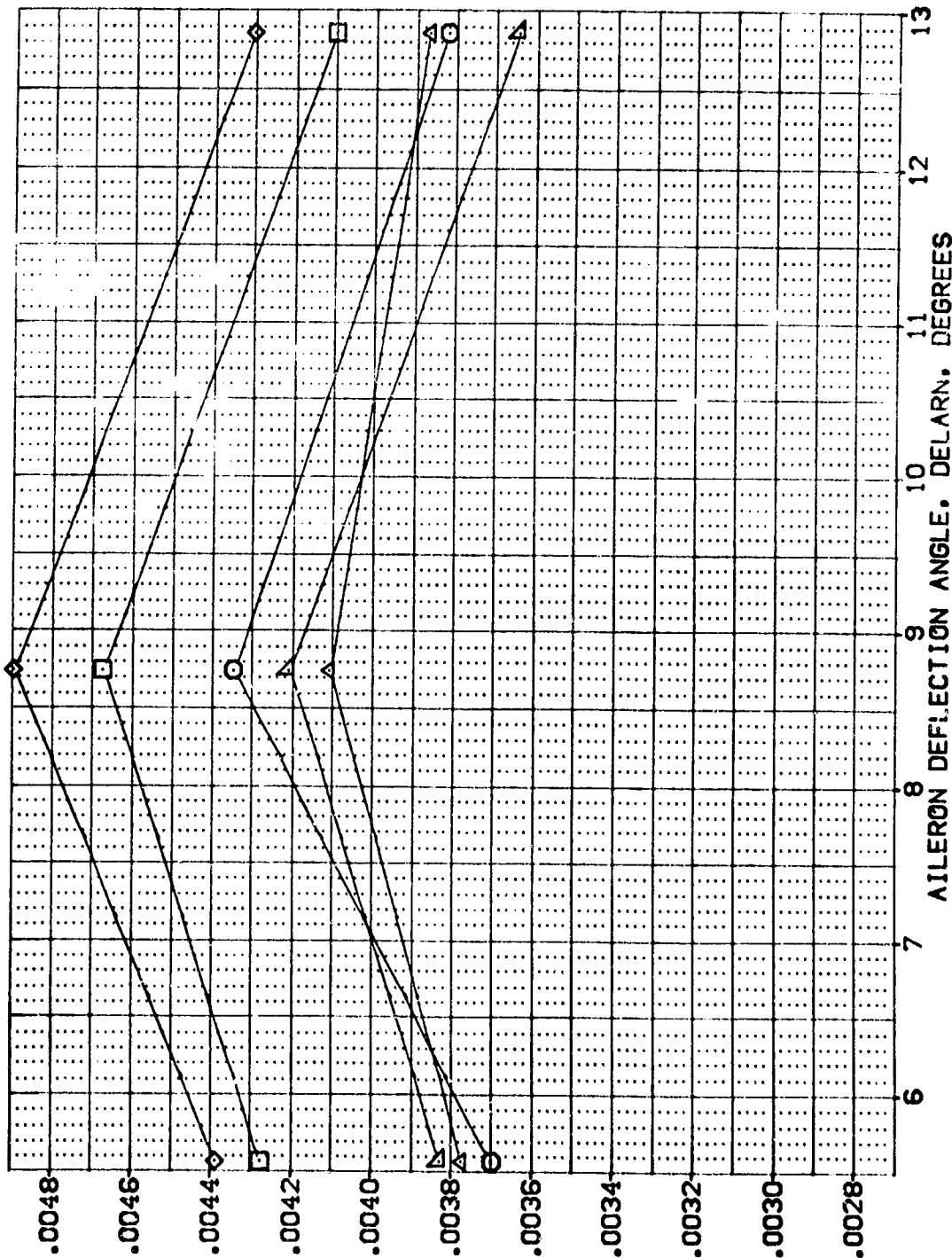
SYMBOL
 ○
 □
 ◇
 △
 ▽

PARAMETRIC VALUES
 MACH .000
 ELEVTR .600
 SPOBRK -11.700
 RUDDER .000
 CNF16 1.000

DATA SOURCE
 DELARN 4.360
 DATASET 25.550
 DELARN 5.570
 DATASET 992087
 DELARN 12.860
 DATASET 992103

REFERENCE INFORMATION
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 SREF 936.7000
 YMRP 1081.3500
 ZMRP .0000
 SCALE .0040

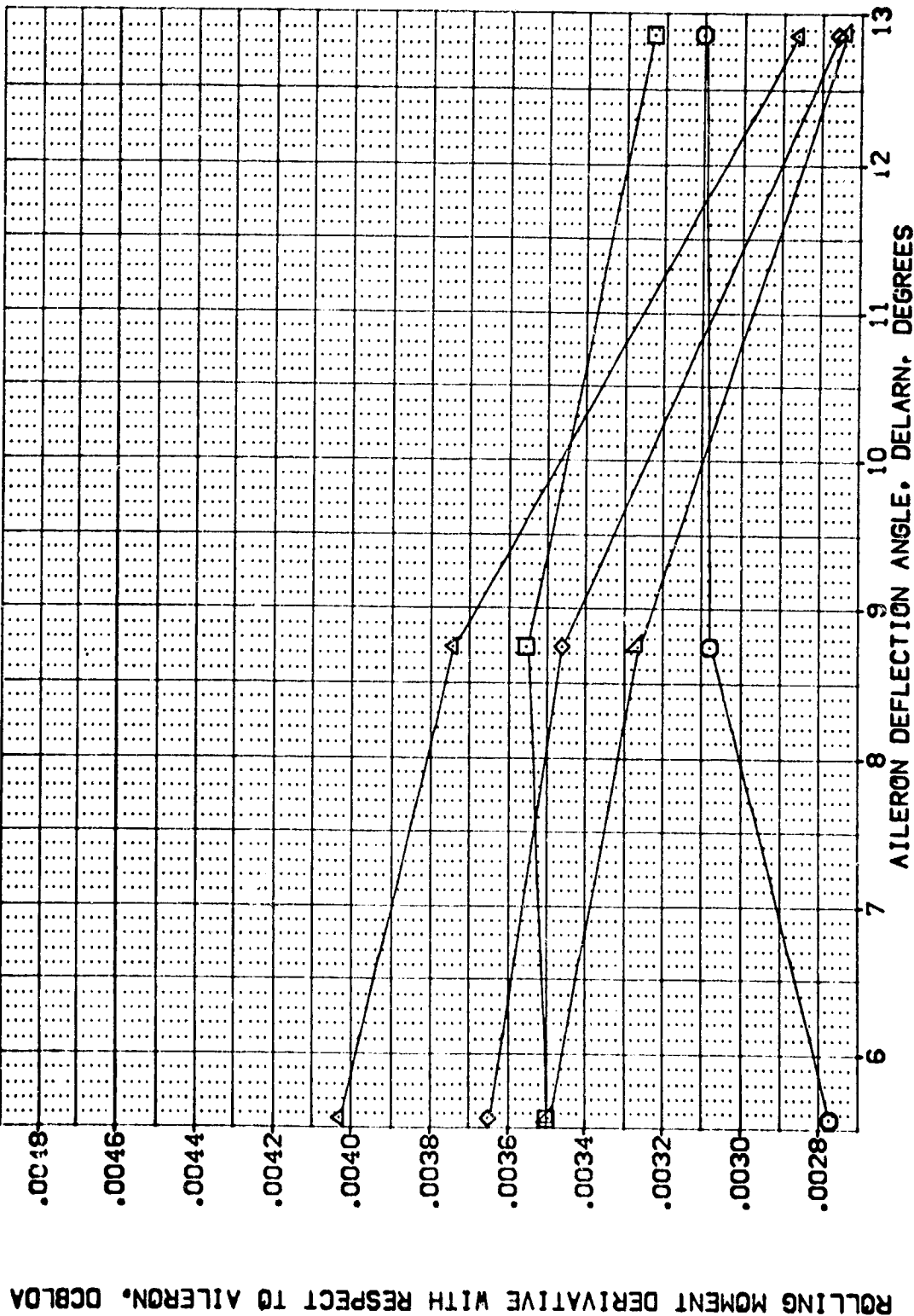
ROLLING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCBLDA



LINEAR RANGE OF AILERONS

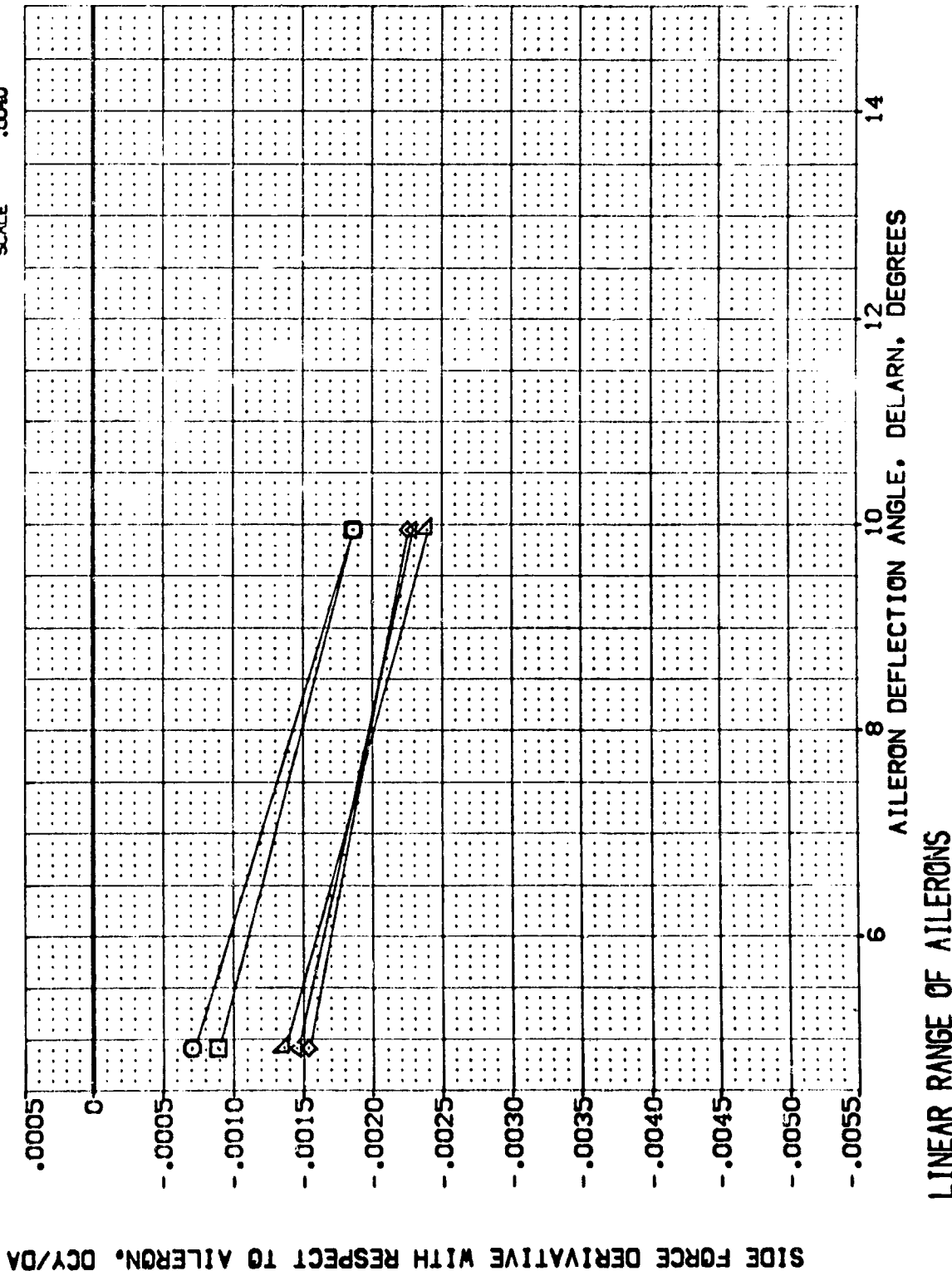
MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992087)

SYMBOL	ALPHA	MACH	BOFLAP	BETA	CONF16	PARAMETRIC VALUES	DATA SOURCE	DELARN	DATASET	DELARN	SREF	REFERENCE INFORMATION
□	.000					ELEVTR	4.360	992087	992087	8.750	SREF	2741.8000
□	5.000					SPDRK	25.550	992087	992087	8.750	LREF	481.6480
◇	10.000					RUDER	.000	992103			BREF	936.7000
△	15.000										XTRP	1081.3000
△	20.000										YTRP	.0000
											ZTRP	.0000
											SCALE	.0040



LINEAR RANGE OF AILERONS

SYMBOL	ALPHA	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
		MACH	BOFLAP	ELEVTR	DELARN	DELARN	DELARN	SREF	SREF	SQ. FT	
○	.000										
□	5.000										
◇	10.000										
△	15.000										
▽	20.000										



MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

(992085)

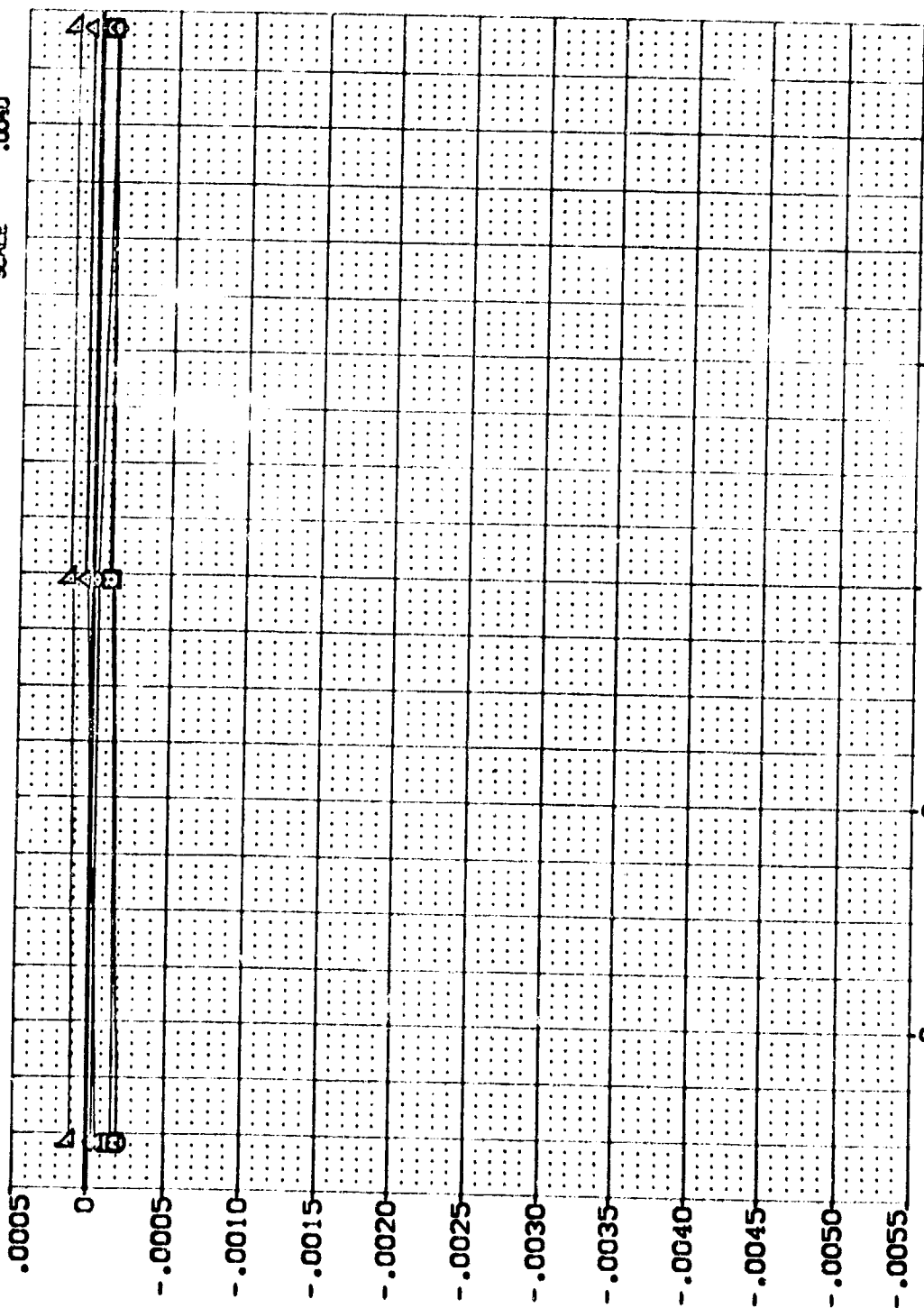
SYMBOL
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 ◇
 △
 ▲

PARAMETRIC VALUES
 MACH 2.950
 BOFLAP -11.700
 BETA .000
 CNF16 1.000
 ELEVTR
 SPOBRK
 RUDDER

DATA SOURCE
 DELARN
 DATASET
 DELARN
 DATASET
 DELARN
 DATASET

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 481.6480
 BREF 936.7000
 XREF 1081.3500
 YREF .0000
 ZREF .0000
 SCALE .0040

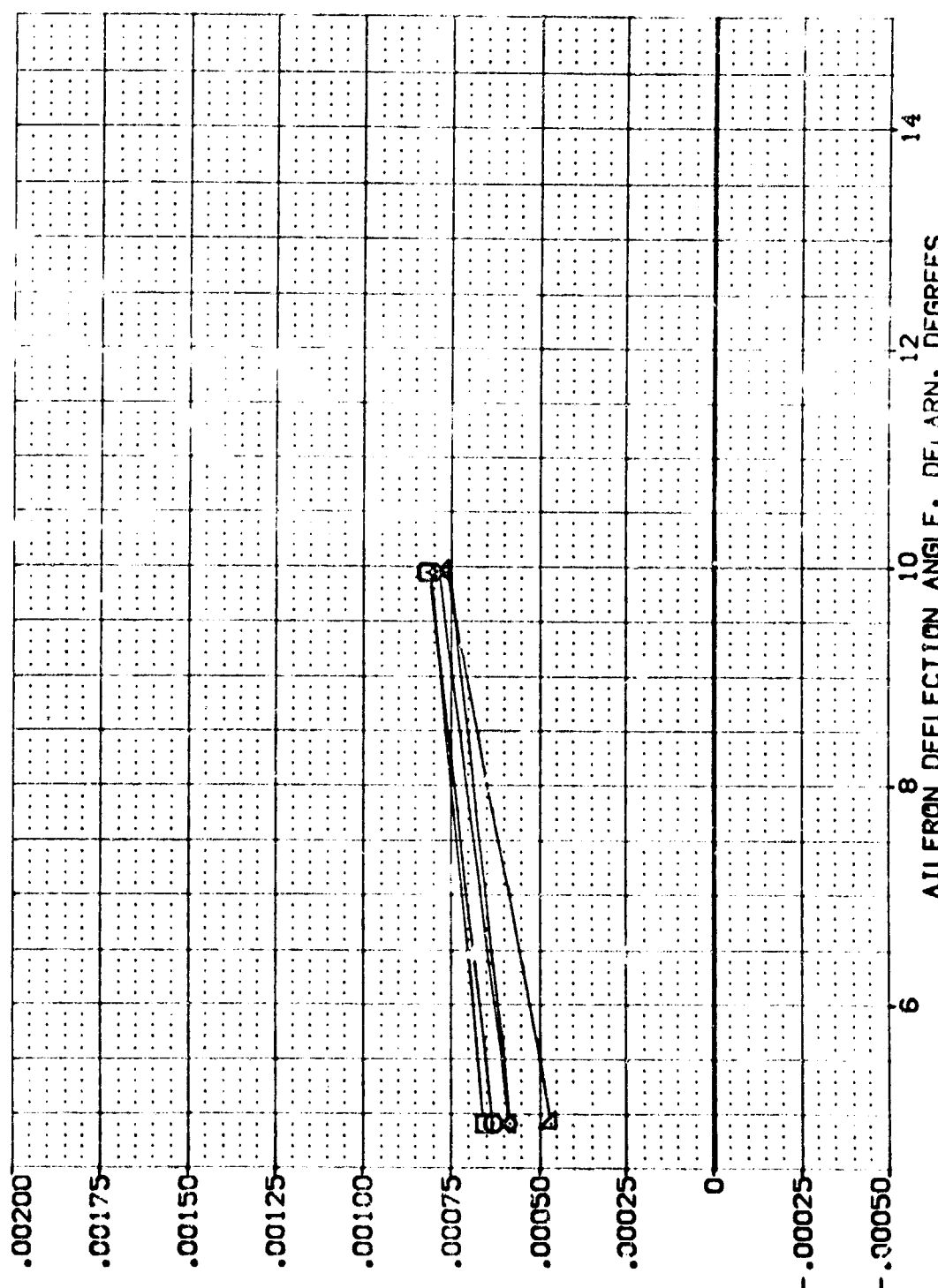
SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON. DCY/DA



AILERON DEFLECTION ANGLE. DELARN. DEGREES
 LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORS 34-0 (BCFM)(WE)(VR) [992085]

SYMBOL	ALPHA	MACH	BDFLAP	BETA	CONF16	PARAMETRIC VALUES	-5.00G	DATASET	DELARN	DATA SOURCE	DELARN	992085	DELARN	9.950	SREF	2741.8000	SO. FT
□	5.000					ELEVTR	25.550	992085	4.910						LREF	43.6460	IN.
◇	10.000					SPOBRK	.000	992101	14.660						BREF	936.7000	IN.
△	15.000					RUDDER									YMRP	1081.3500	IN.
▽	20.000														ZMRP	.0000	IN.
															ZMRP	.0000	IN.
															SCALE	.0040	



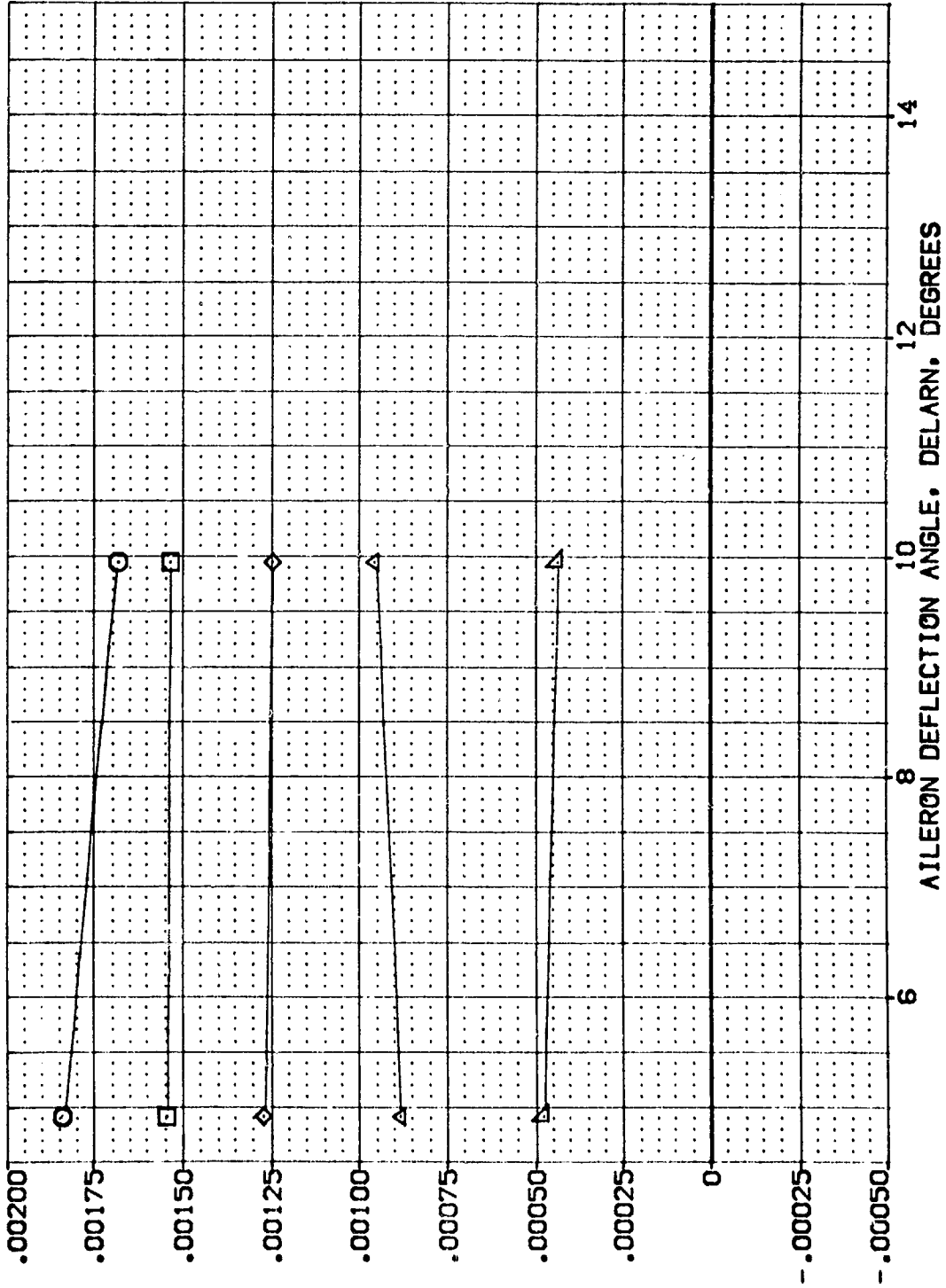
YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYNDA

AILERON DEFLECTION ANGLE, DELARN, DEGREES

LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992085)

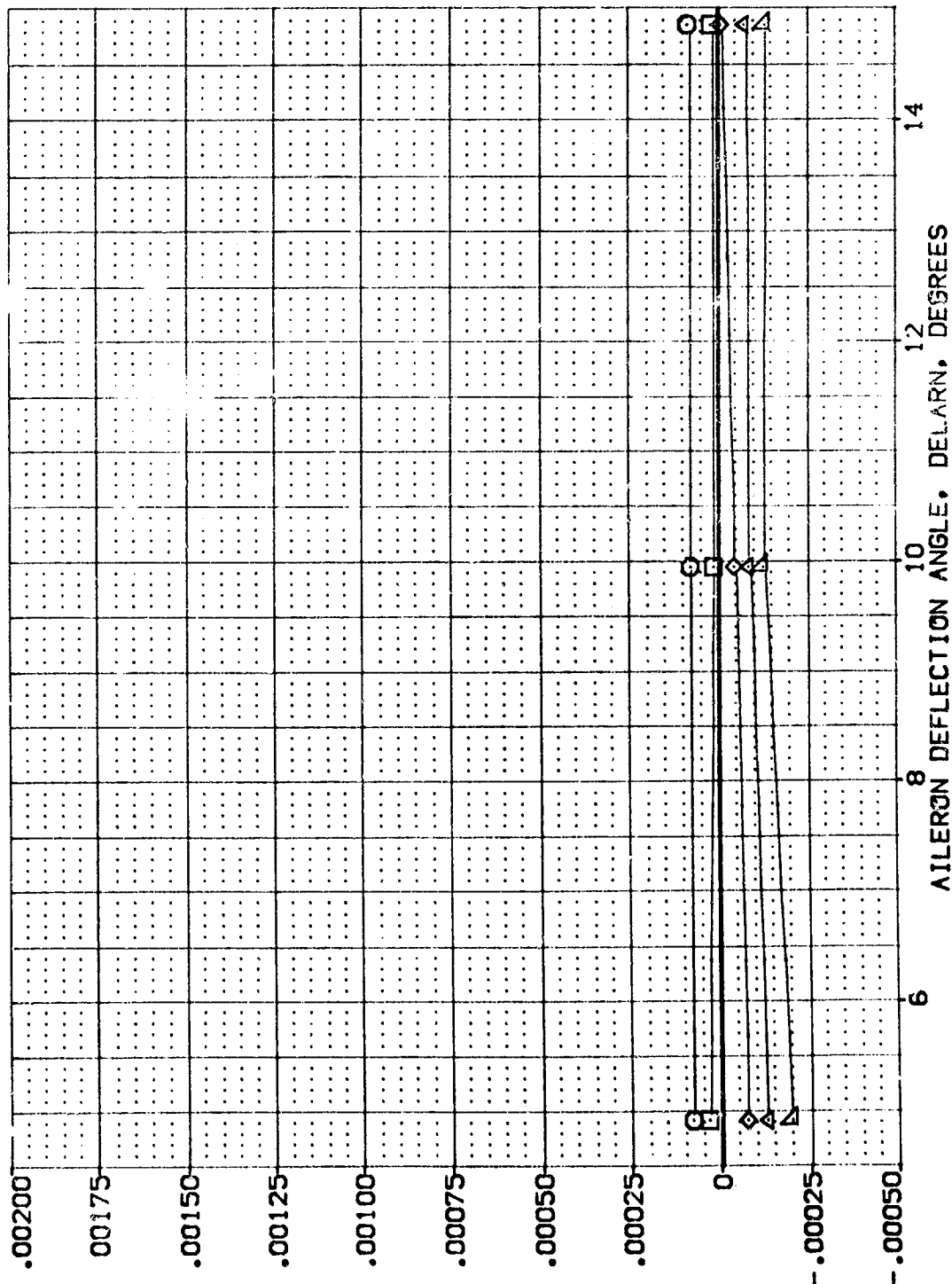
SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	.000	.500	ELEVTR	-5.000 DATASET	DELARN
□	5.000	-11.700	SPDRK	25.550 992085	9.950
◇	10.000	.000	RUDDER	.000 992101	992095
△	15.000	CONF16	1.000		
	20.000				



LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992085)

SYMBOL	ALPHA	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
		MACH	ELEVTR	SPDRK	RUDDER	-5.000	DATASET	DELARN	SREF	2741.8000	SQ. FT
○	.000	2.950	-11.700	.000	.000	992085	9.950	REF	491.6480	IN.	
□	5.000	BOFLAP	BETA	CONF1G	25.550	992085		REF	923.7000	IN.	
◇	10.000				.000	992101		REF	1031.3900	IN.	
△	15.000							REF	.0000	IN.	
▽	20.000							REF	.0000	IN.	
								REF	.0040	SCALE	



LINEAR RANGE OF AILERONS

(992095)


 Tobacco

ALPHA
0.000
5.000
10.000
15.000
20.000

MACH
BOFLAP
BETA
CONF 18

PARAMETER
-11.700
-1.000
-1.000

C. VALVES
ELEVATOR
SPOROK
FLUDDER

25.550
-5.000
.000

AYASET
92085
92101

ATA SOURCE
CLAREN
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4.862

DATE
292095

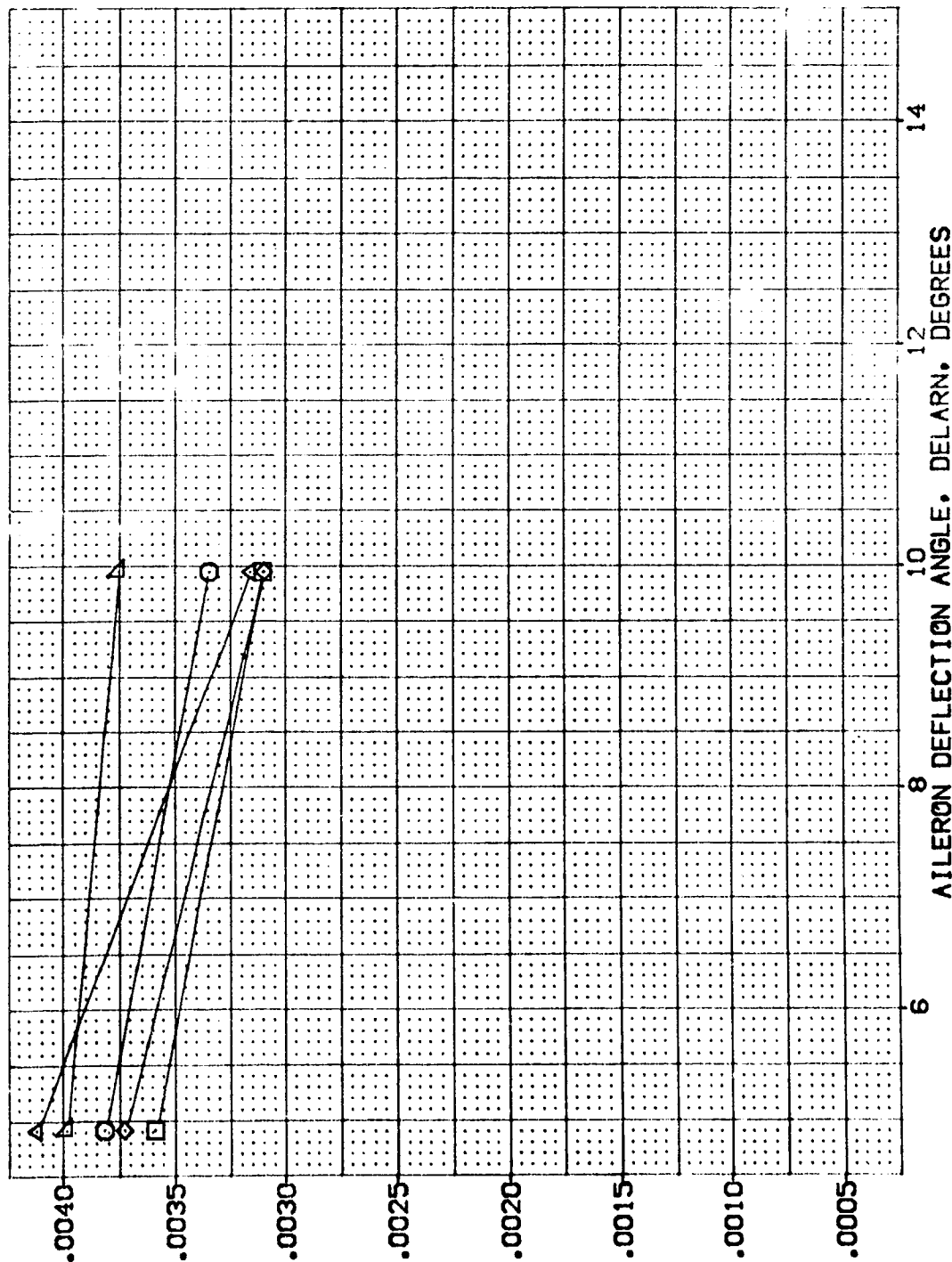
DEL ARB-
S. 950

REF
REF
REF
REF
REF

ANCE INF
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5.7000
1.3800
0.0000
0.0000

ZZZZZZZ

ROLLING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCBLDA

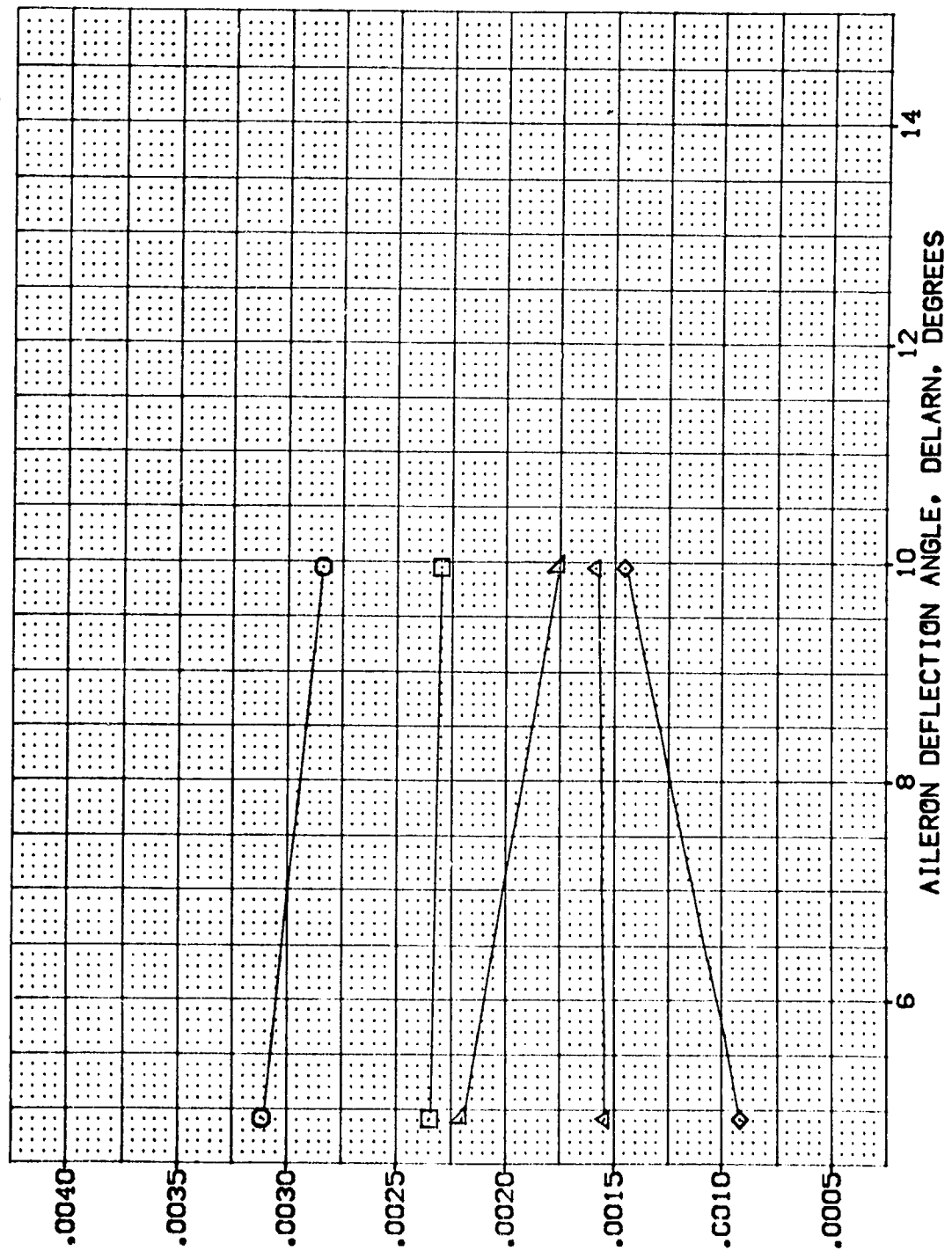


LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992085)

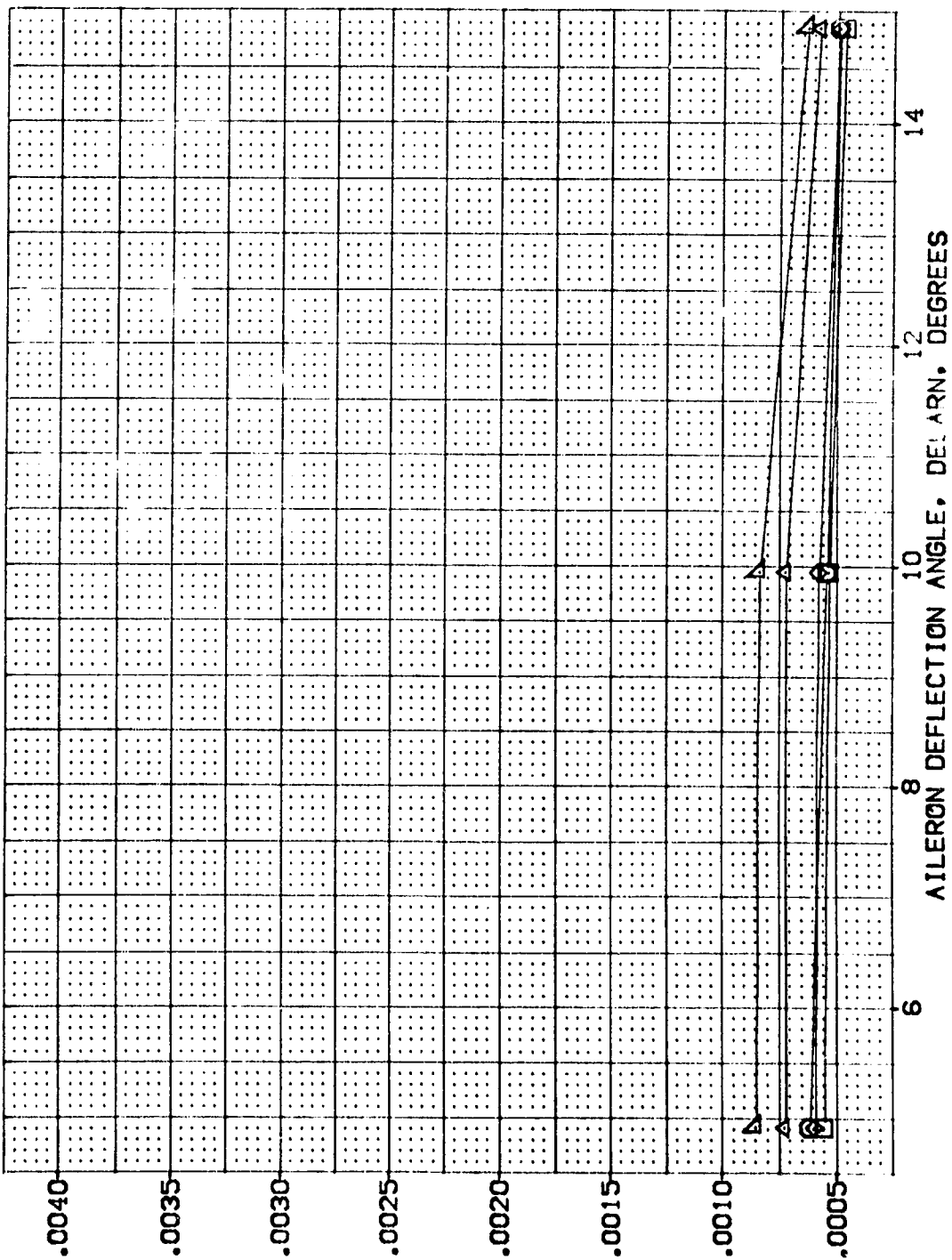
SYMBOL	ALPHA	MACH	BOFLAP	BETA	CONFIG	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELARN	SREF	REFERENCE INFORMATION
○	.000	.900	ELEVTR	-5.000	992085	DELARN	4.910	992085	9.950	2741.8000	50. FT
□	5.000	-11.700	SPDRBK	25.550	992085	DELARN	14.650			481.6480	IN.
◇	10.000	.000	RUDDER	.000	992101					935.7000	IN.
△	15.000	1.000								1081.3000	IN.
▽	20.000									.0000	IN.
										.0000	IN.
										.0040	SCALE

ROLLING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCBLDA



LINEAR RANGE OF AILERONS

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	ALPHA	MACH	ELEVTR	-5.000	DELARN	SREF	SD. FT
□	5.000	BOFLAP	SPDBRK	25.550	992085	LREF	IN.
◇	10.000	BETA	RUDDER	.000	992101	BREF	IN.
△	15.000	CONF18				XPRP	IN.
▽	20.000					YPRP	IN.
						ZPRP	IN.
						SCALE	IN.



LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992085)

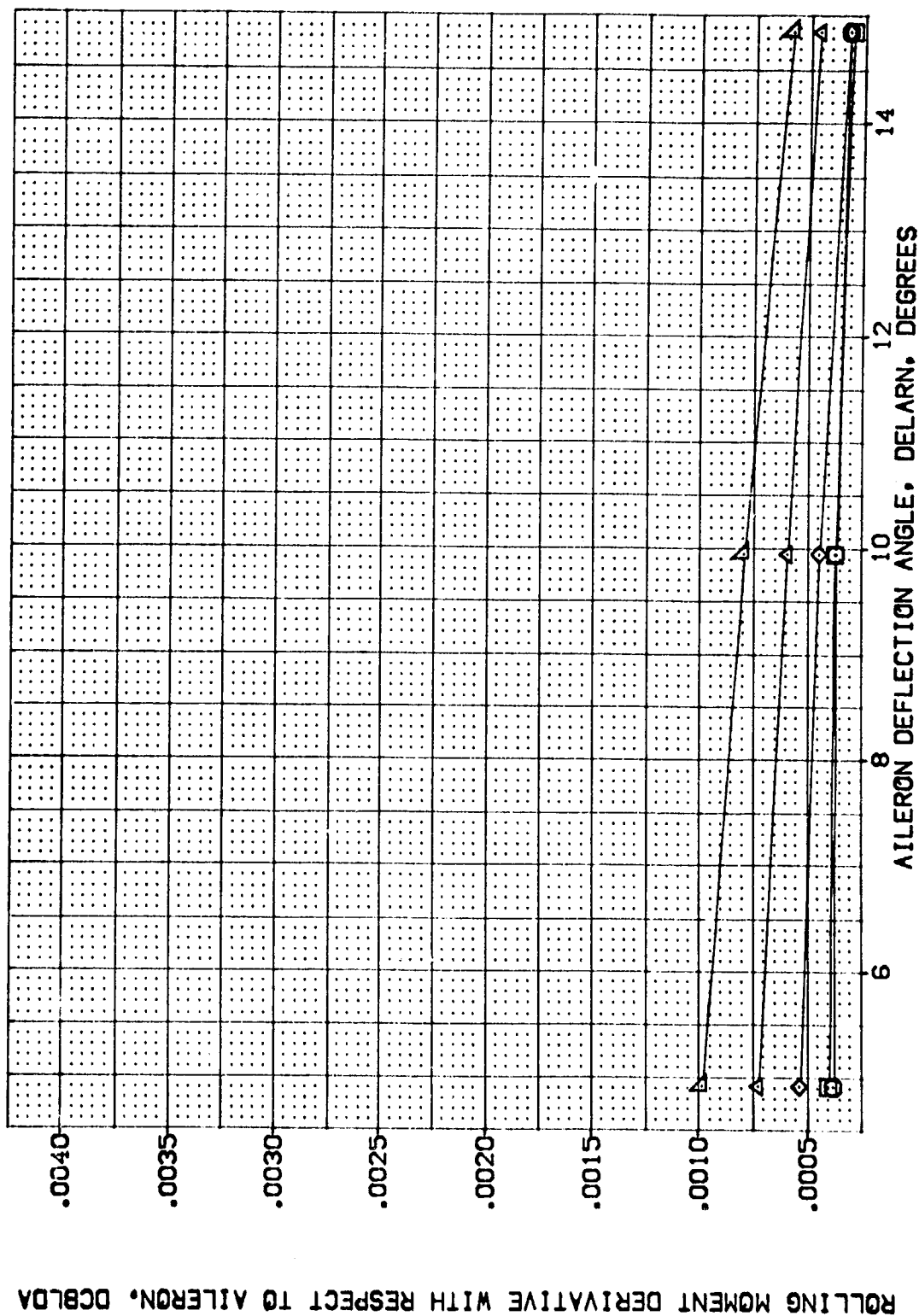
Symbo

ALPHA	MACH	ELEVTR
.000	BOFLAP	4.960
5.000	BETA	-11.700
10.000	CONFIG	.000
15.000		1.000
20.000		

	DATA SOURCE
-5.000	DELARN
25.550	4.910
.000	14.860

DATASET	DELARN
992095	9.950

REFERENCE INFORMATION		50. FT
SREF	2741.8000	IN.
LREF	481.6480	IN.
BREF	936.7000	IN.
XTRP	1081.2500	IN.
YTRP	.0000	IN.
ZTRP	.0000	IN.
SCALE	.0040	



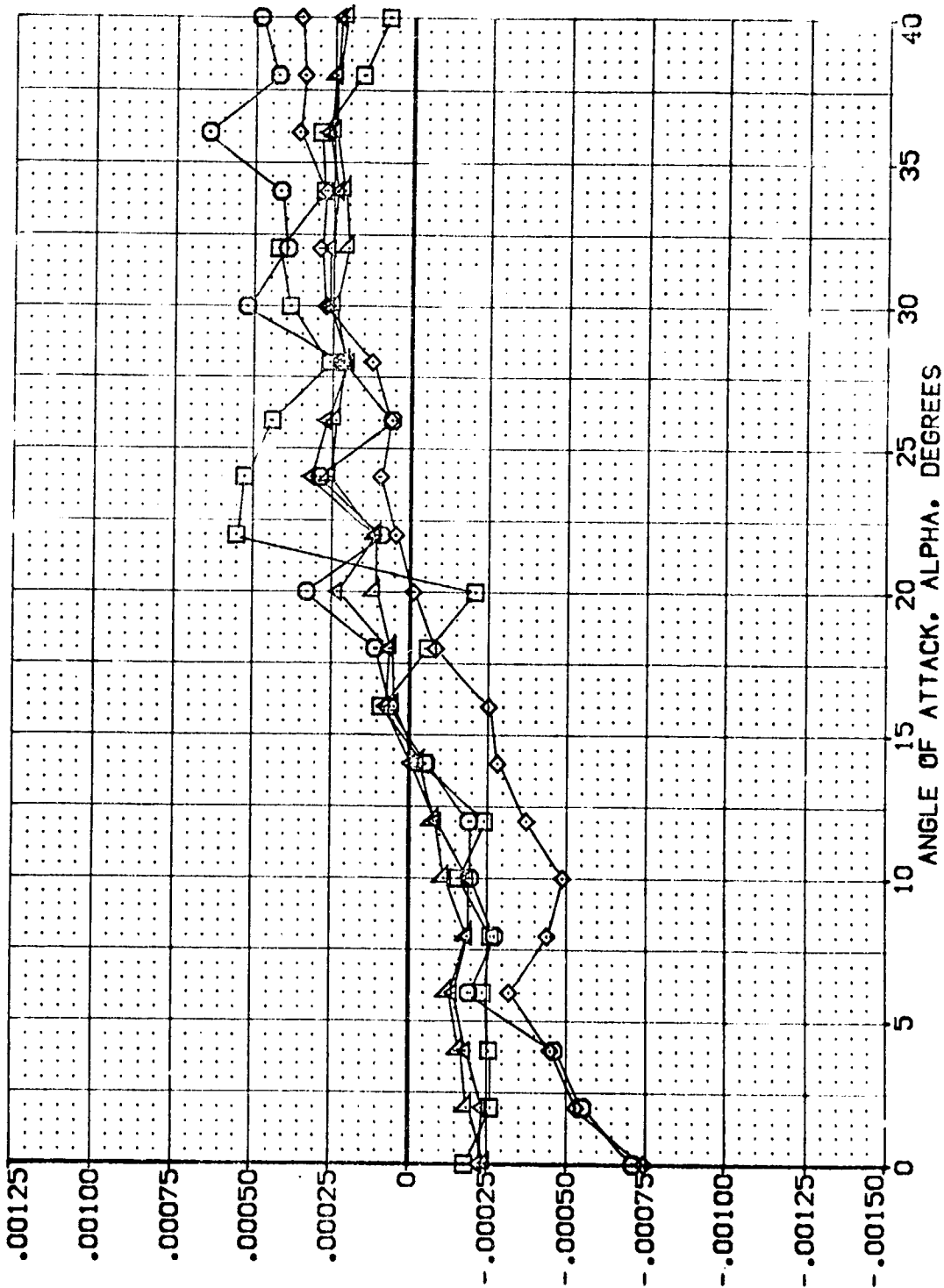
SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA

DATA SET SYMBOL CONFIGURATION DESCRIPTION

{P2081}	MSFC S91(0A49) 0R8 34-0 (BOFH)(VE)(VR)
{P2082}	MSFC S91(0A49) 0R8 34-0 (BOFH)(VE)(VR)
{P2083}	MSFC S91(0A49) 0R8 34-0 (BOFH)(VE)(VR)
{P2084}	MSFC S91(0A49) 0R8 34-0 (BOFH)(VE)(VR)
{P2085}	MSFC S91(0A49) 0R8 34-0 (BOFH)(VE)(VR)

DELARN ELEVTR BOFLAP SPODR REFERENCE INFORMATION

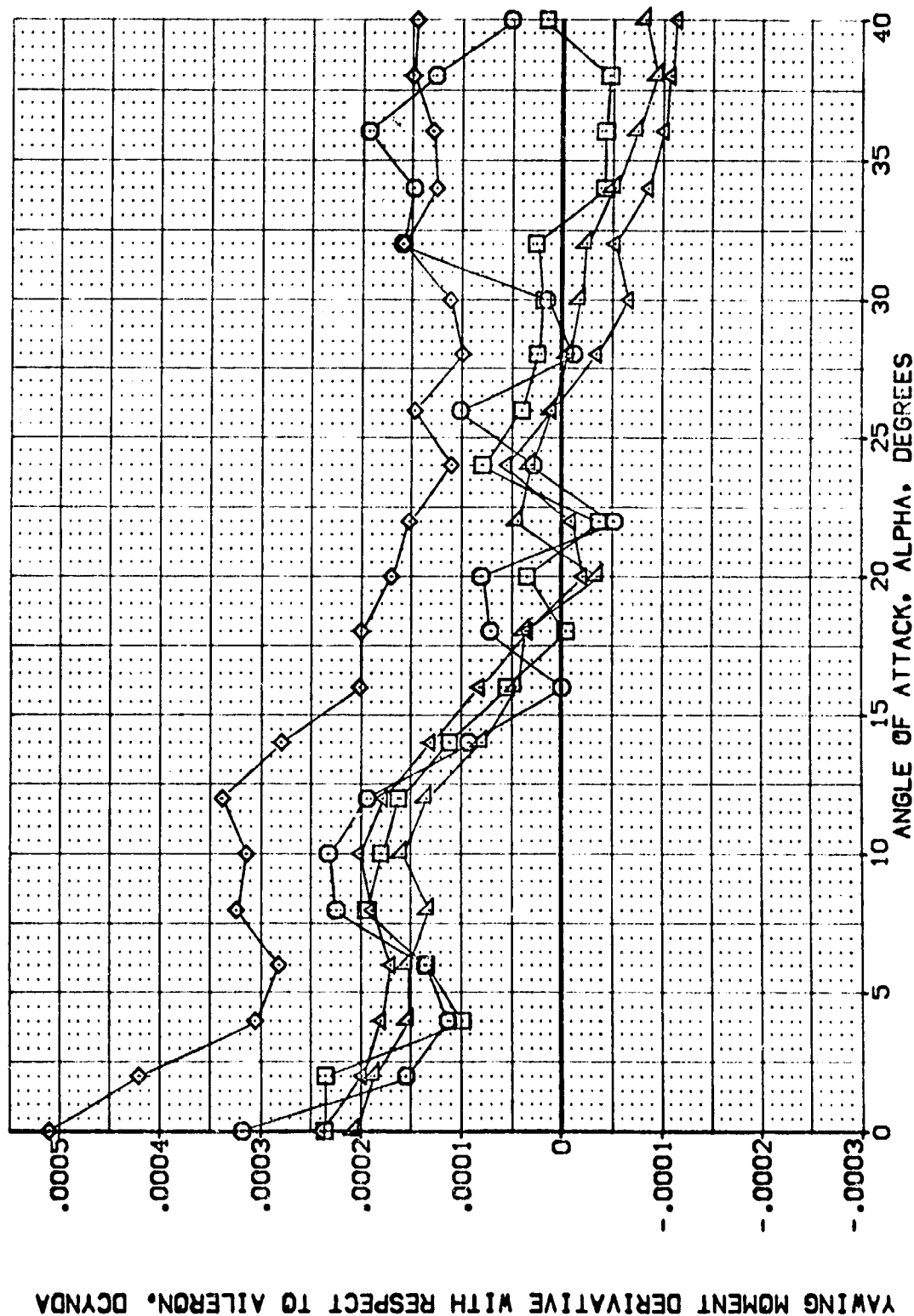
4.250	-24.060	-11.700	25.550	SREF	2741.8000	50. FT
4.940	-14.670	-11.700	25.550	LREF	481.6480	IN.
8.940	-24.640	-11.700	25.550	BREF	936.7000	IN.
9.730	-14.270	-11.700	25.550	YMRP	1081.3000	IN.
14.070	-14.390	-11.700	25.550	ZMRP	1000	IN.
				SCALE	1000	IN.



LINEAR RANGE OF AILERONS

(A)MACH = 2.99

DELARN	ELEVTR	SOFLAP	SPOBRK	REFERENCE INFORMATION			
4.250	-24.050	-11.700	25.550	SREF	2741	8000	90. FT
4.940	-24.570	-11.700	25.550	REF	481	5480	IN.
5.940	-24.580	-11.700	25.550	SREF	536	7000	IN.
5.730	-14.270	-11.700	25.550	XPRP	1031	3500	IN.
14.070	-14.330	-11.700	25.550	ZPRP		0000	IN.
				ZPRP		0000	IN.
				SCALE		0040	



LINEAR RANGE OF AILERONS

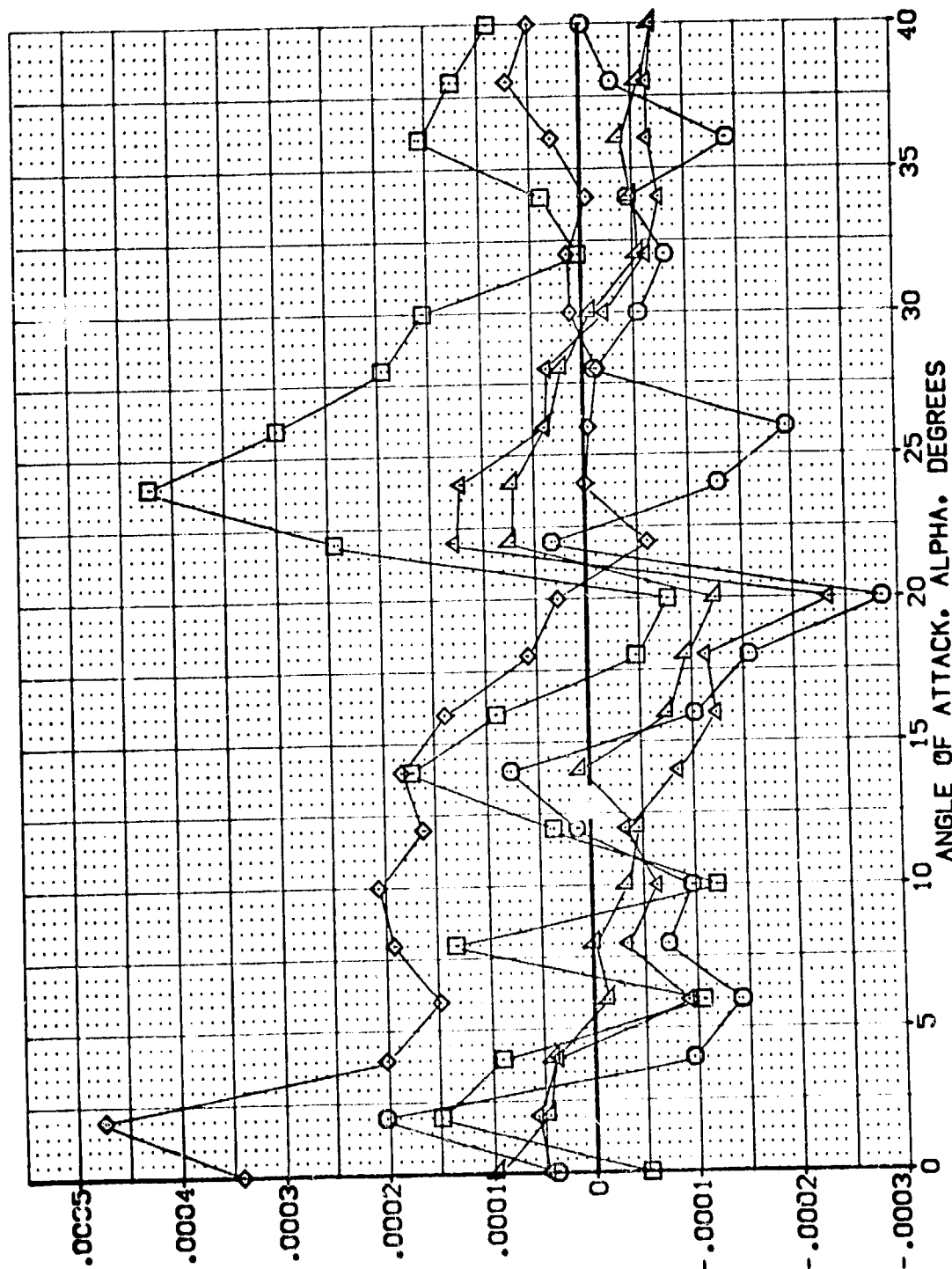
$$[A]_{MACH} = 2.99$$

DATA SET SYMBOLS: \square \diamond \triangle \circ

CONFIGURATION DESCRIPTION:
 MSFC 581(OA45) DB 34-0 (BOFH)(VE)(VR)
 MSFC 531(OA45) DB 34-0 (BOFH)(VE)(VR)
 MSFC 581(OA45) DB 34-0 (BOFH)(VE)(VR)
 MSFC 581(OA45) DB 34-0 (BOFH)(VE)(VR)
 MSFC 581(OA45) DB 34-0 (BOFH)(VE)(VR)

DELTA IN ELEVTR BOFLAP SPORNK
 4.250 -24.050 -11.700 25.550
 4.540 -14.670 -11.700 25.550
 8.940 -24.640 -11.700 25.550
 9.730 -14.270 -11.700 25.550
 14.070 -14.350 -11.700 25.550

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 YREF 1081.3500 IN.
 ZREF .0000 IN.
 SCALE .0040



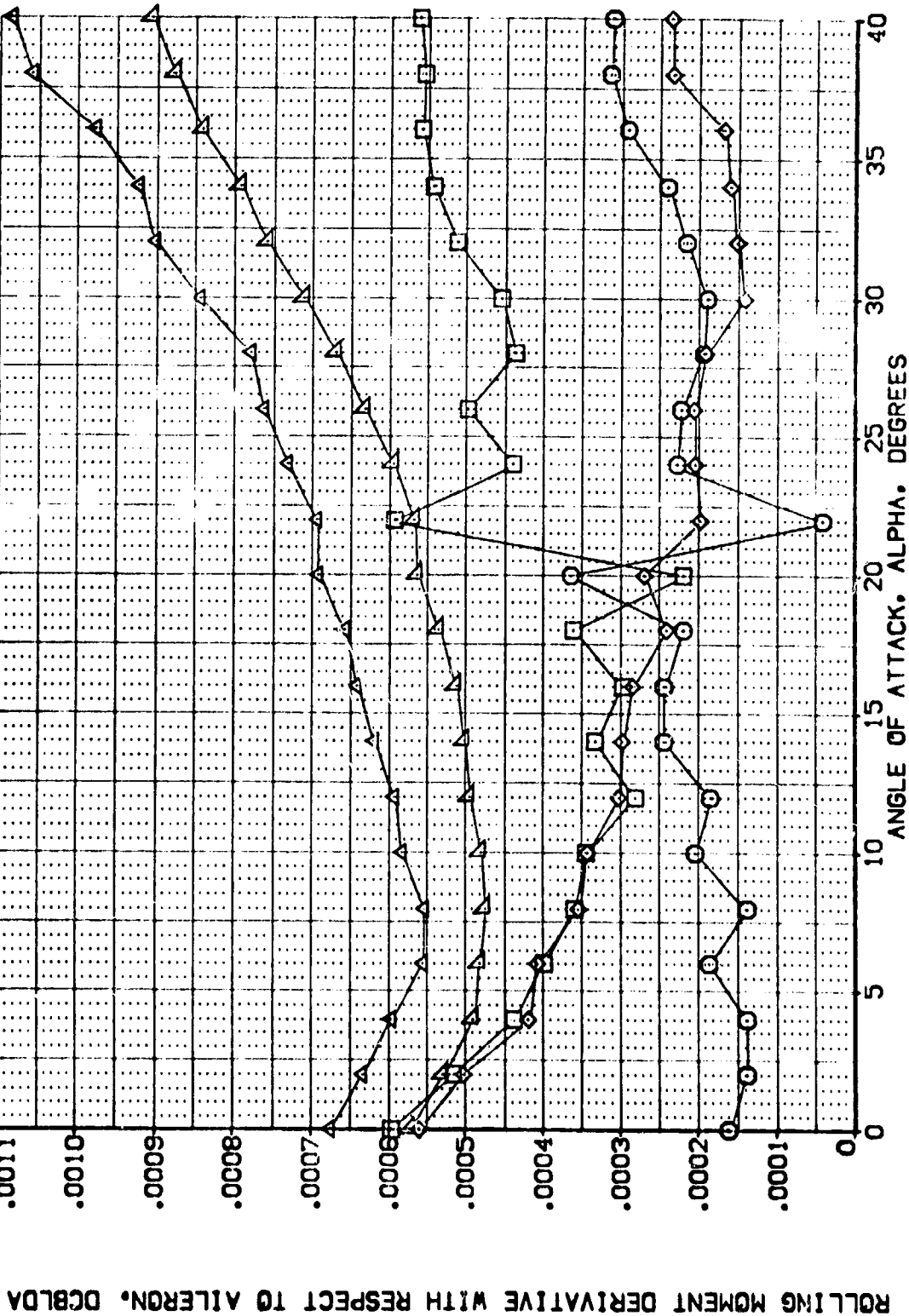
YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYND

LINEAR RANGE OF AILERONS

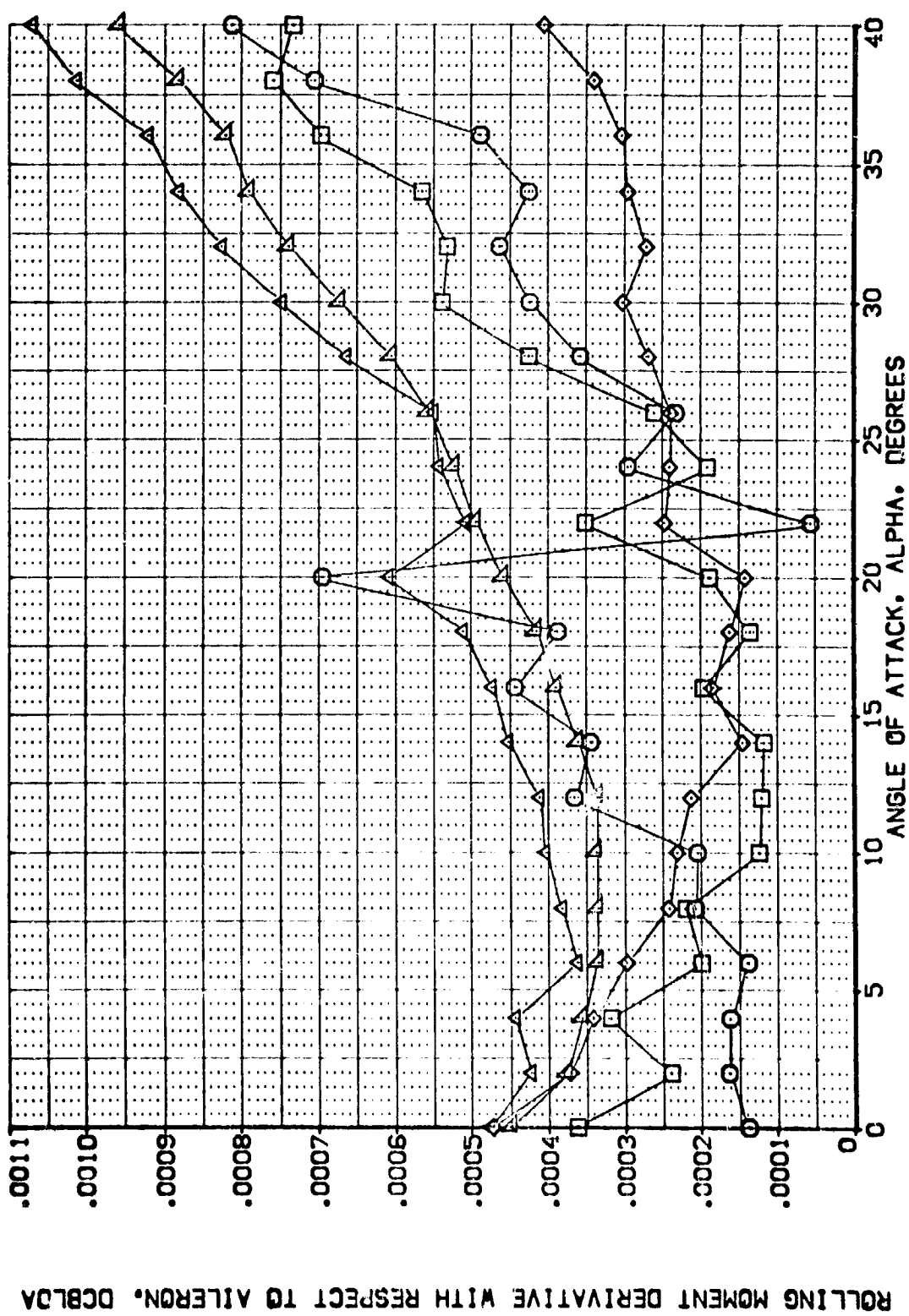
(B)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION DELTA IN ELEVTR EOLFLAP SPDRBK REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA IN	ELEVTR	EOLFLAP	SPDRBK	REFERENCE INFORMATION
(P22001)	H5TC 501(0A19) 000 34-0 (BDTH)(VE)(VR)	4.250	-24.060	-11.700	25.550	SREF 2741.8000 90. FT
(P22002)	H5TC 501(0A19) 000 34-0 (BDTH)(VE)(VR)	4.540	-24.670	-11.700	25.550	LREF 481.6480 IN.
(P22003)	H5TC 501(0A19) 000 34-0 (BDTH)(VE)(VR)	8.540	-24.840	-11.700	25.550	BREF 936.7000 IN.
(P22004)	H5TC 501(0A19) 000 34-0 (BDTH)(VE)(VR)	9.730	-14.270	-11.700	25.550	XREF 1081.3500 IN.
(P22005)	H5TC 501(0A19) 000 34-0 (BDTH)(VE)(VR)	14.070	-14.330	-11.700	25.550	YREF .0000 IN.
						ZREF .0000 IN.
						SCALE .0040



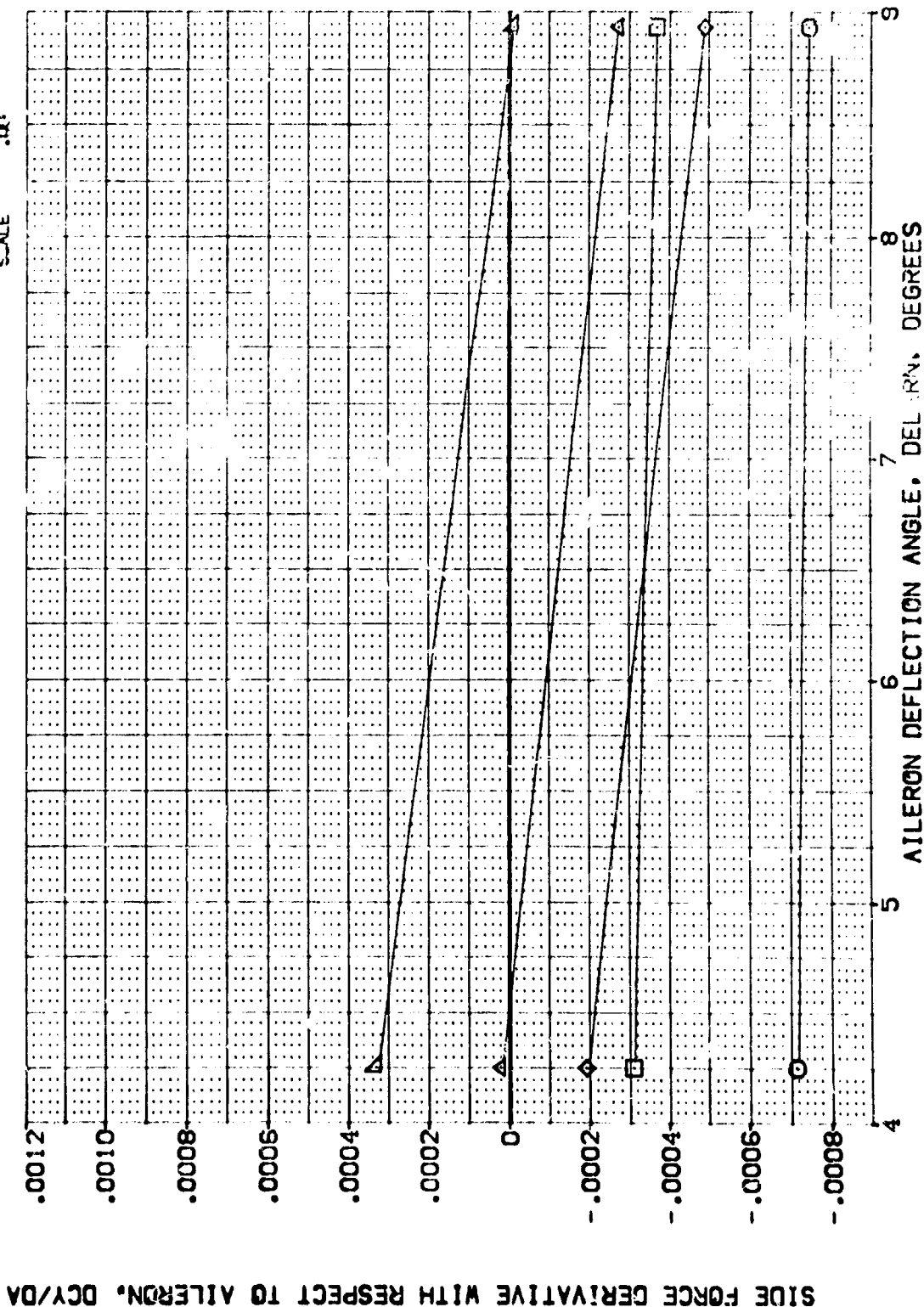
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA	ELEV	BOFLAP	SPDRK	REFERENCE INFORMATION
(P2201)	501(0A49) 078 34-0 (BOM)(VE)(VR)	4.250	-24.060	-11.700	25.550	SREF 2741.8000 SQ. FT
(P2202)	531(0A49) 078 34-0 (BOM)(VE)(VR)	4.940	-14.670	-11.700	25.550	LREF 481.6460 IN.
(P2203)	501(0A49) 078 34-0 (BOM)(VE)(VR)	8.940	-24.640	-11.700	25.550	BREF 936.7000 IN.
(P2204)	501(0A49) 078 34-0 (BOM)(VE)(VR)	9.730	-14.270	-11.700	25.550	XREF 1081.3800 IN.
(P2205)	501(0A49) 078 34-0 (BOM)(VE)(VR)	14.070	-14.350	-11.700	25.550	YREF .0000 IN.
						ZREF .0000 IN.
						SCALE .0040



MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

992081

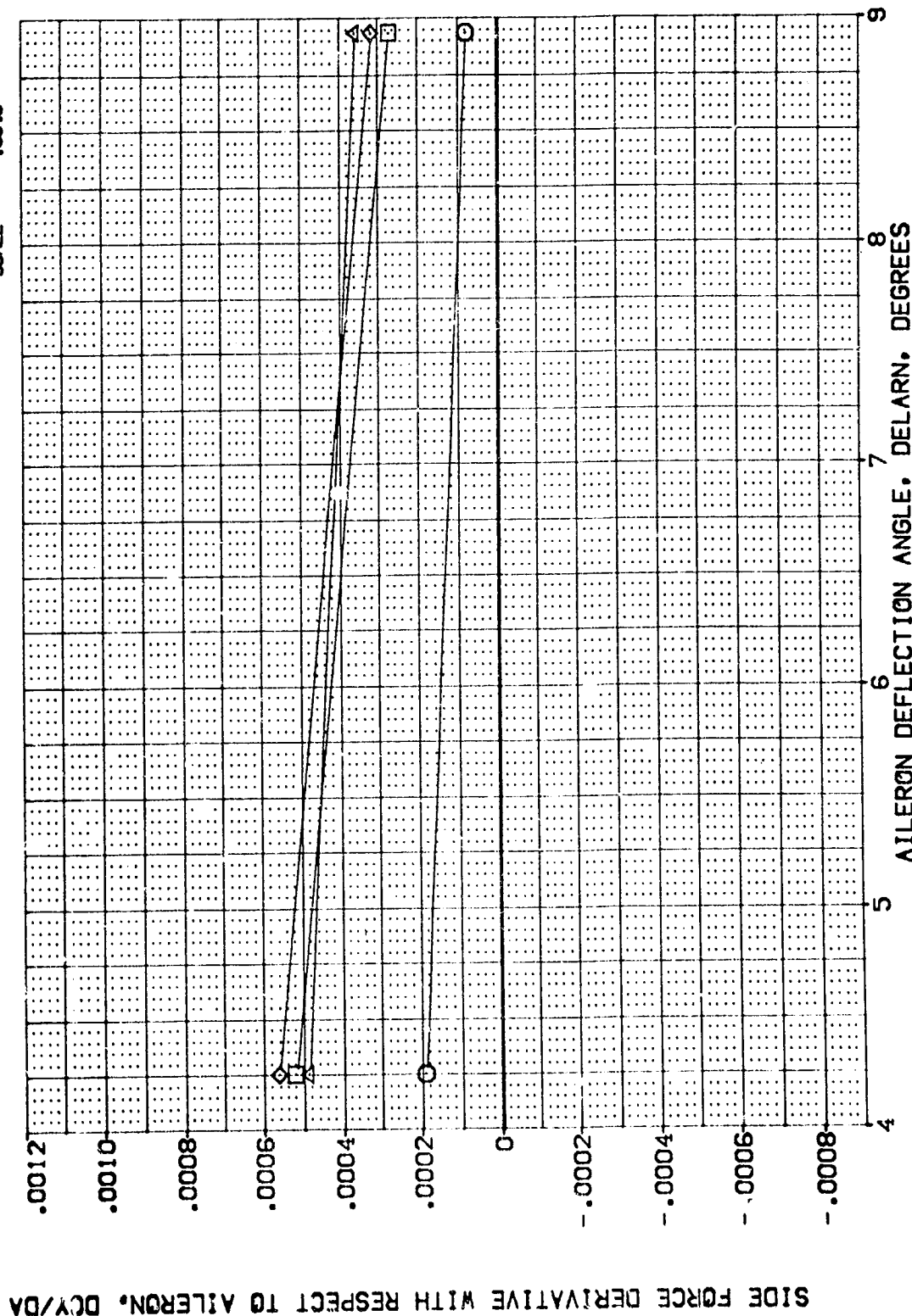
SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	.000	2.950	ELEVTR	DELARN	SREF 2741.8000 SQ. FT
□	5.000	-11.700	SPDRK	DELARN	LREF 431.1480 IN.
◇	10.000	.000	RUDDER	DELARN	SREF 936.7000 IN.
△	15.000	1.000		DELARN	XREF 1081.2500 IN.
▽	20.000			DELARN	YREF .0000 IN.
				DELARN	ZREF .0000 IN.
				DELARN	SCALE .001



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LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992081)

Symbol 

ALPHA		PARAMETER
.000	MACH	4.560
5.000	BOFLAP	-11.700
10.000	BETA	.000
15.000	CONF16	1.000
20.000		

PARAMETRIC VALUES	
MACH	4.960
BOFLAP	ELEVTR
BETA	SPDRBK
CONFIG	RUDDER
	1.000

PARAMETRIC VALUES	
4.960	ELEVT
-11.700	SPOSIX
.000	RUDDEF

-24.060 DATASET
25.550 992081
.000

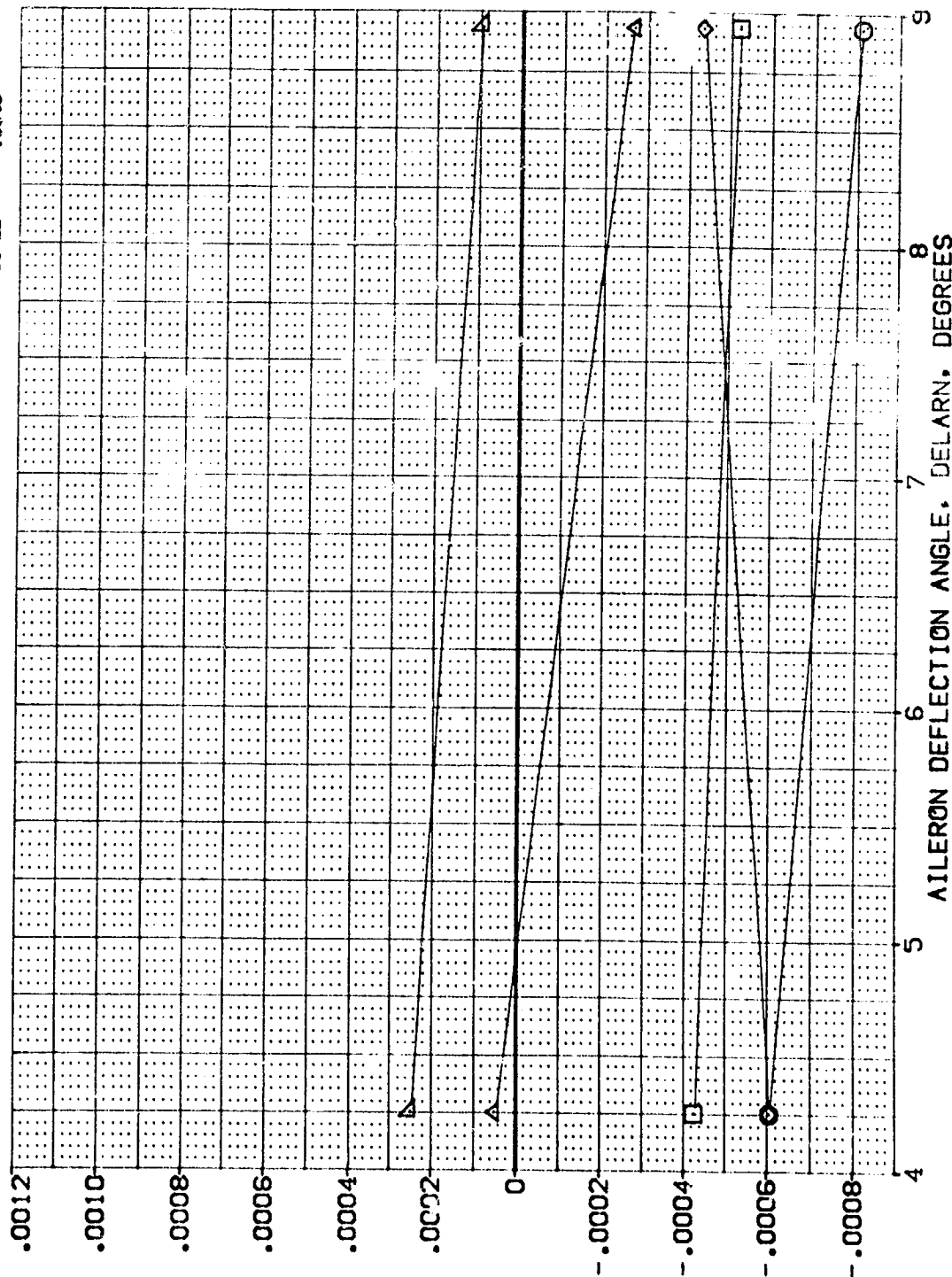
DATA SOURCE
DELRN
4.250

DATASET	DELAP
992001	8.940

1387
1385

REFERENCE INFORMATION

2741	5000	50.
481	6830	IN.
936	7000	IN.
1081	3000	IN.
	0000	IN.
	0000	IN.
	0040	IN.

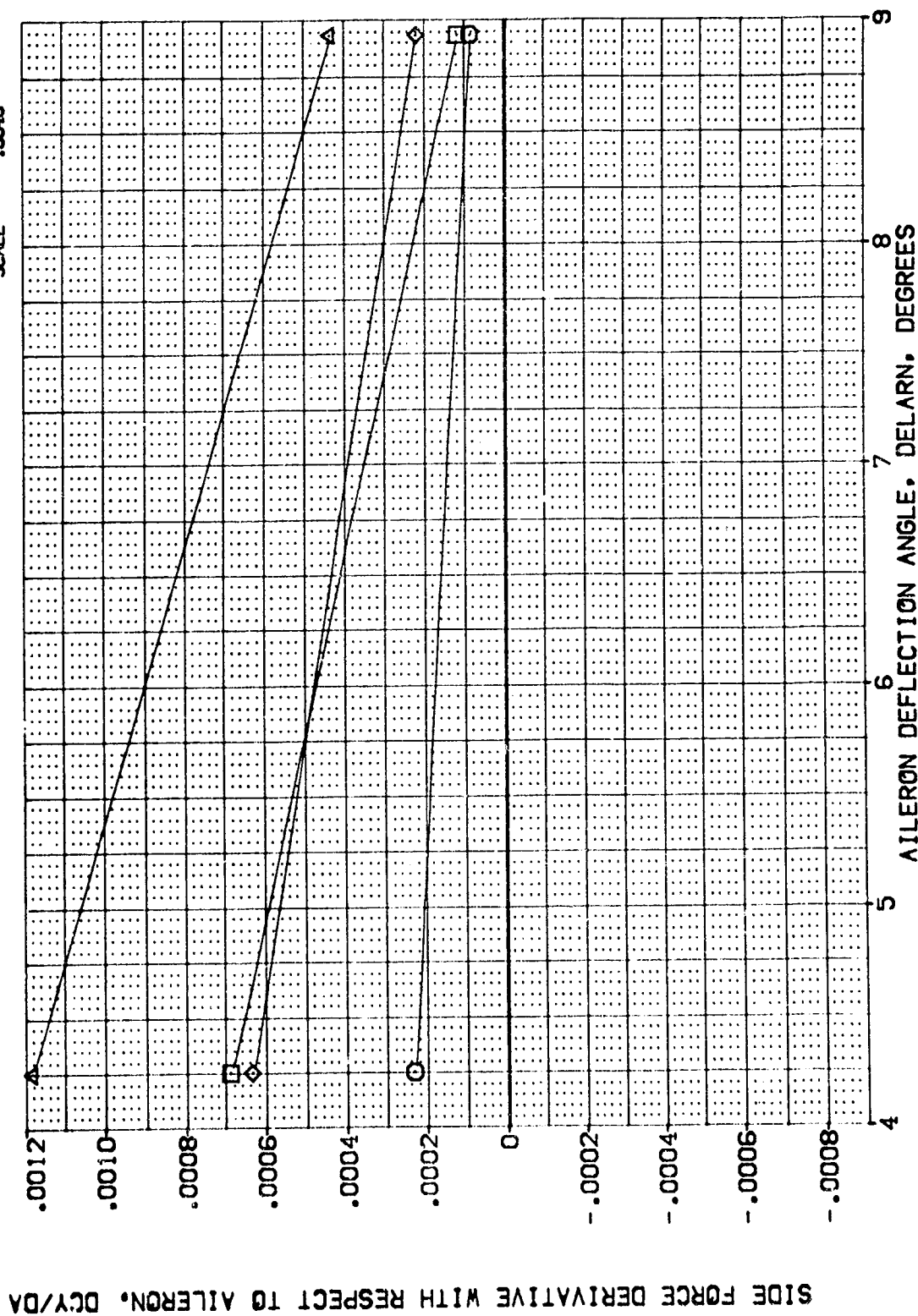


LINEAR RANGE OF AILERONS

PAGE 810

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992081)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	ALPHA	MACH	ELEVTR	-24.060	DATASET	DELARN	SREF
□	25.000	4.960	SPDRK	25.950	992081	8.940	2741.8000
◇	30.000	-11.700	RUDDER	.000			481.6480
△	35.000	BETA	CONF18	1.000			936.7000
	40.000						1081.3500
							744P .0000
							244P .0000
							SCALE .0040
							SD. FT
							IN.
							IN.
							IN.
							IN.



LINEAR RANGE OF AILERONS

MSFC 581(0A43) ORB 34-0 (BCFM)(WE)(VR) (992081)

SW-100

ALPHA
0.000
5.000
10.000
15.000
20.000

PARAMETRIC VALUES

DATA SOURCE

12

REFERENCE INFORMATION

0 5 10 15 20

**MACH
BOFLAP
BETA
CGN-16**

2.990
-11.700
 .000
1.000

ELEVTR
SPDRK
RUDDER

24.060
25.550
.000

1902
TASET

DEC 25 1964

DATASET
1602691

ELARN
8.940

FF F 0.0.0.

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0000
0000
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1
022222

g z z z z z

g z z z z z

g z z z z z

g z z z z z

g z z z z z

g z z z z z

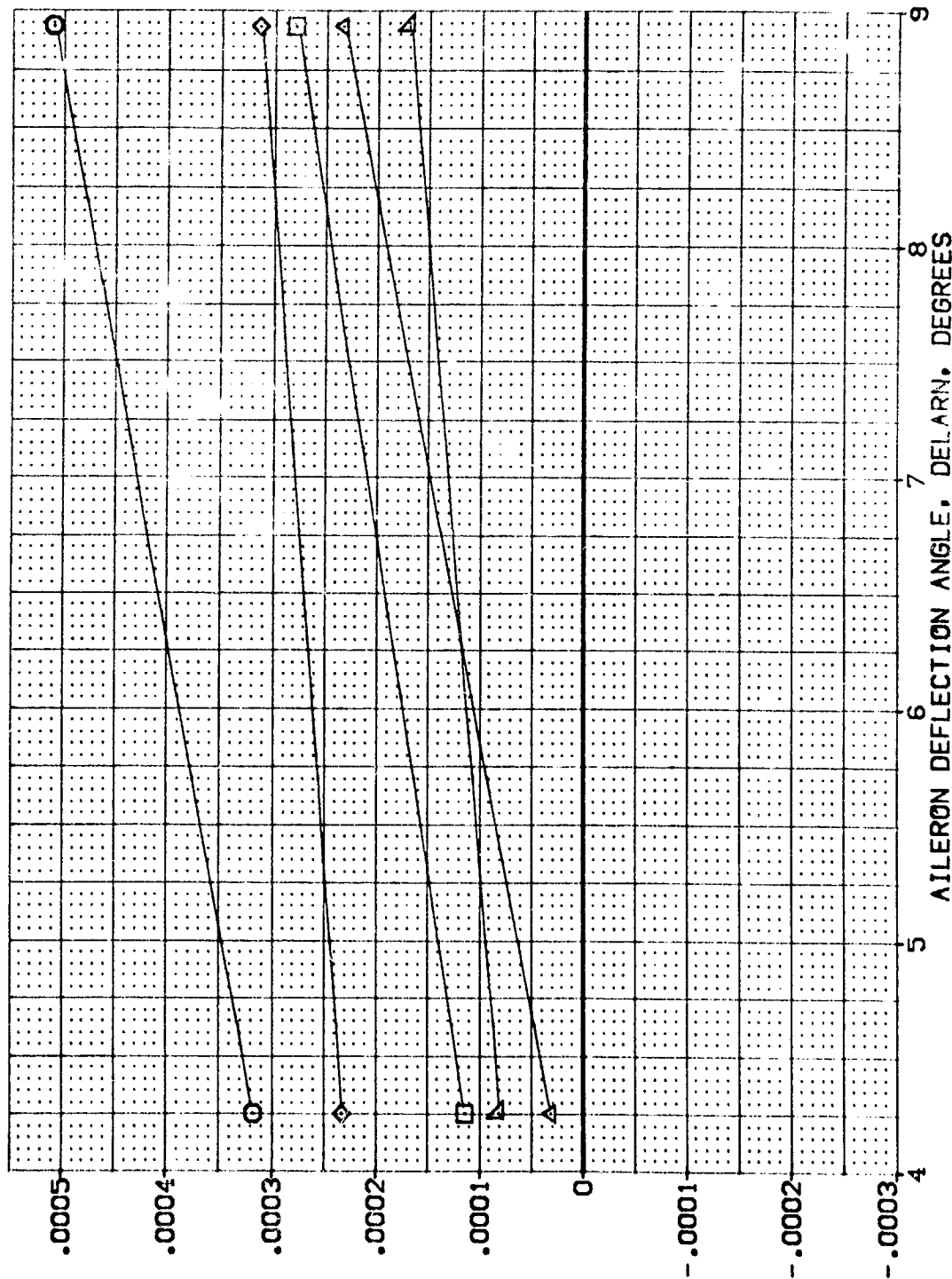
g z z z z z

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g z z z z z

g z z z z z



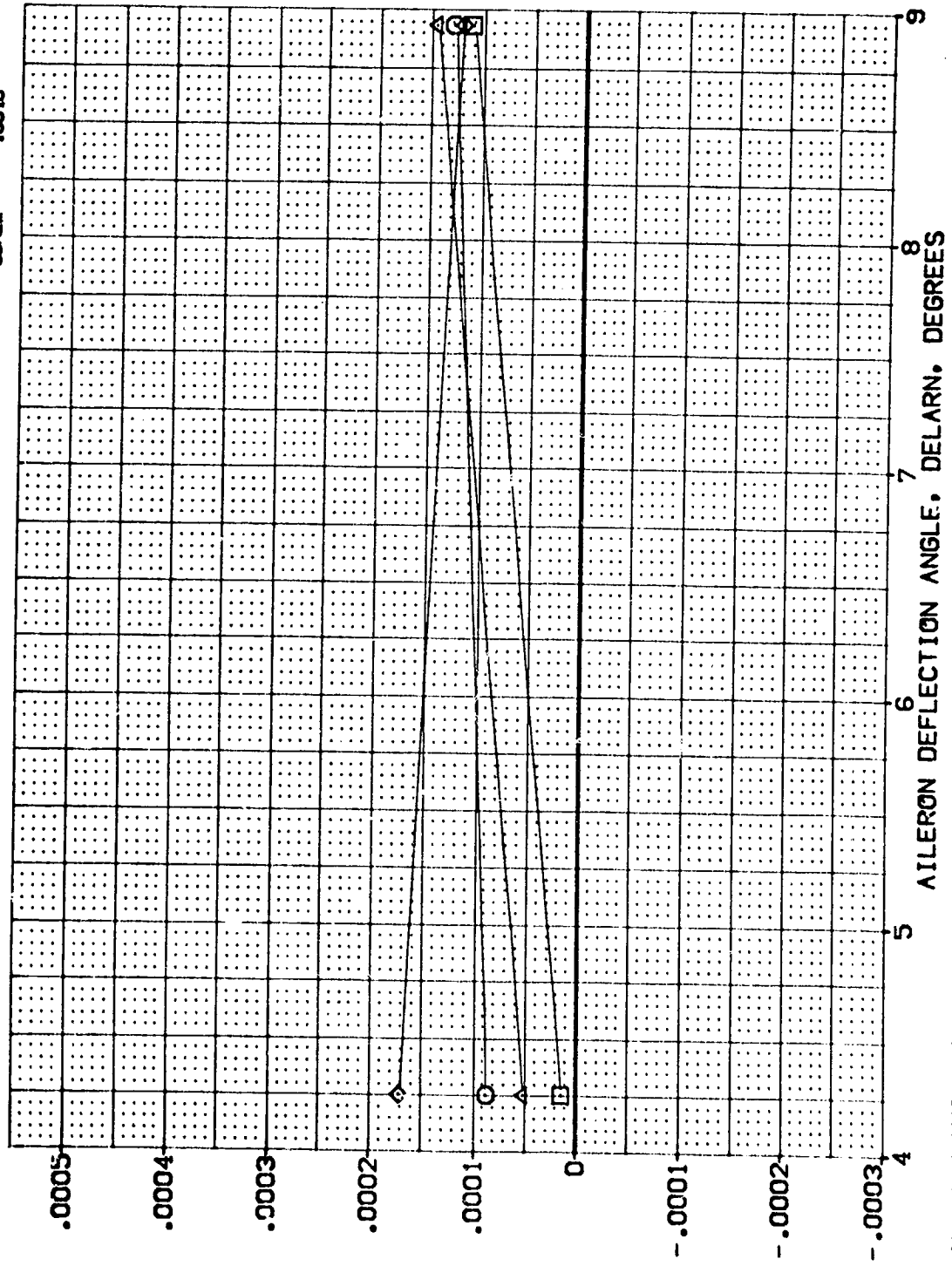
AILERON DEFLECTION ANGLE. DELARN. DEGREES. 8

LINEAR RANGE OF AILERONS

MSFC 591(0A49) 0RB 34-0 (BCFM)(WE)(VR) (992081)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	ALPHA	MACH	ELEVTR	DELARN	SREF	SQ. FT	
□	25.000	BDFLAP	-11.700	4.250	LREF	2741.8000	
◇	30.000	BETA	.000	8.940	BREF	481.6480	
△	35.000	CONF IG	1.000	992081	XREF	936.7000	
	40.000				YREF	1081.3500	
					ZREF	.0000	
					SCALE	.0040	

YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYND



LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992081)

SYMBOL
 ○
 □
 ◇
 △
 ▽

ALPHA
 .000
 5.000
 10.000
 15.000
 20.000

MACH
 4.500
 5.000
 5.500
 6.000

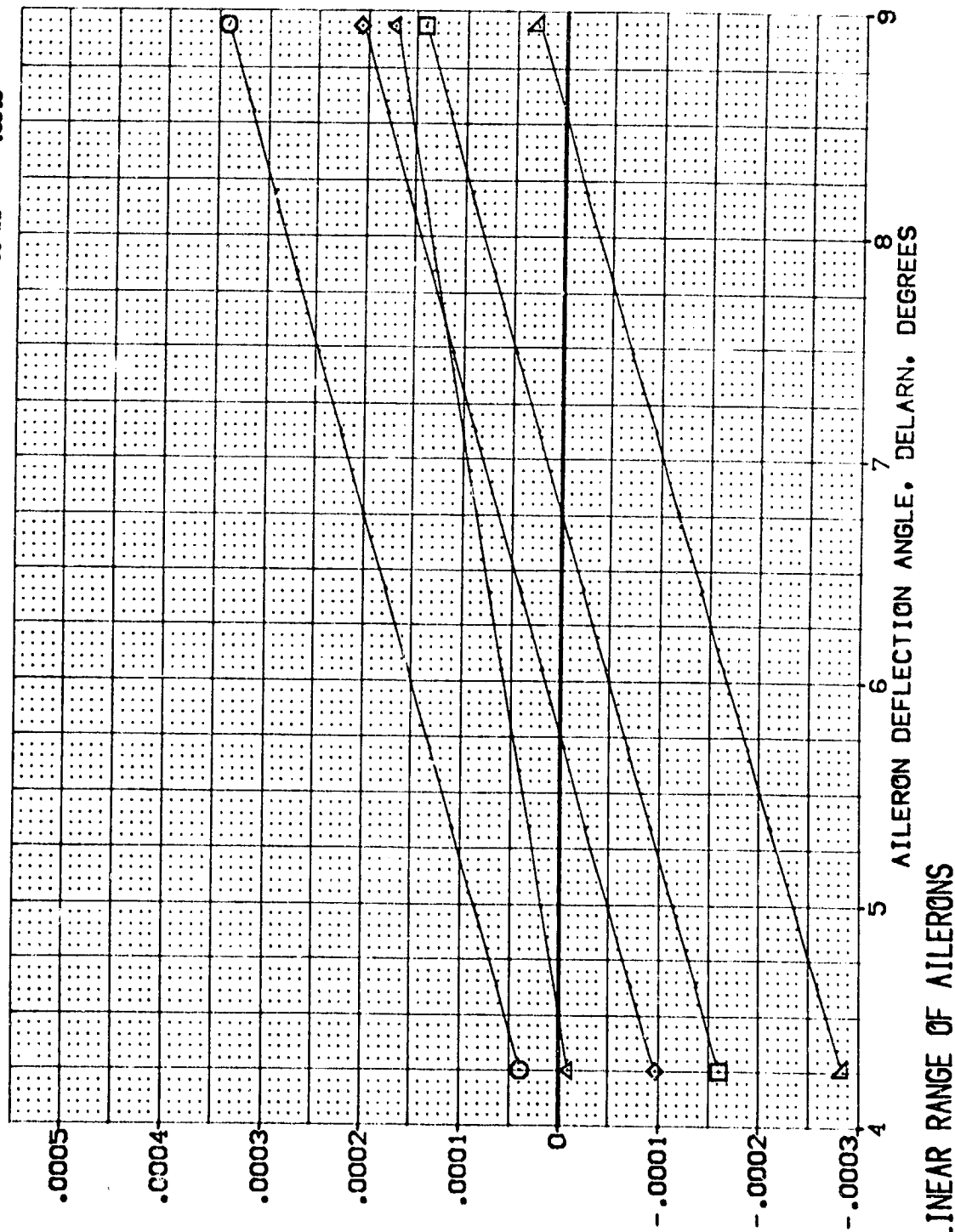
PARAMETRIC VALUES
 ELEVTR
 -11.700
 SPOBRK
 .000
 RUDDER
 1.000

DATA SOURCE
 DELARN
 4.250

DATASET
 992081

DELARN
 8.940

REFERENCE INFORMATION
 SREF 2741.8000 SQ. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



MSFC 581(0A49) ORB 34-C (BCFM)(WE)(VR) (992081)

SYMBOL

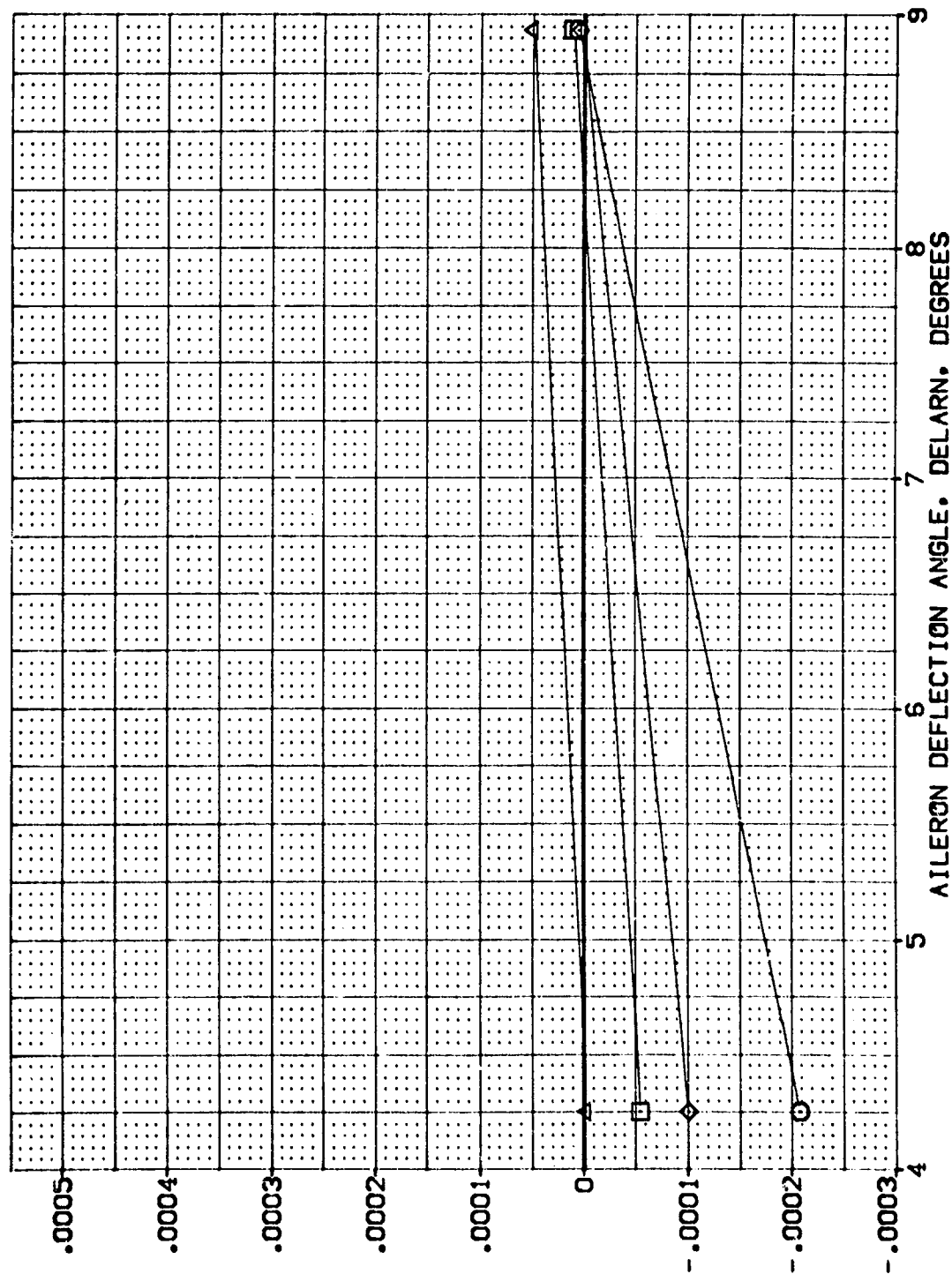
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25,000	○
30,000	□
35,000	◇
40,000	△

ALPHA	MACH	PARAMETRIC VALUES
25.000	BDFLAP	4.550
30.000	BETA	-11.700
35.000	CONF16	1.000
40.000		

DATA SOURCE	
DELARN	
4.250	
-24.080	DATASET
25.550	992081

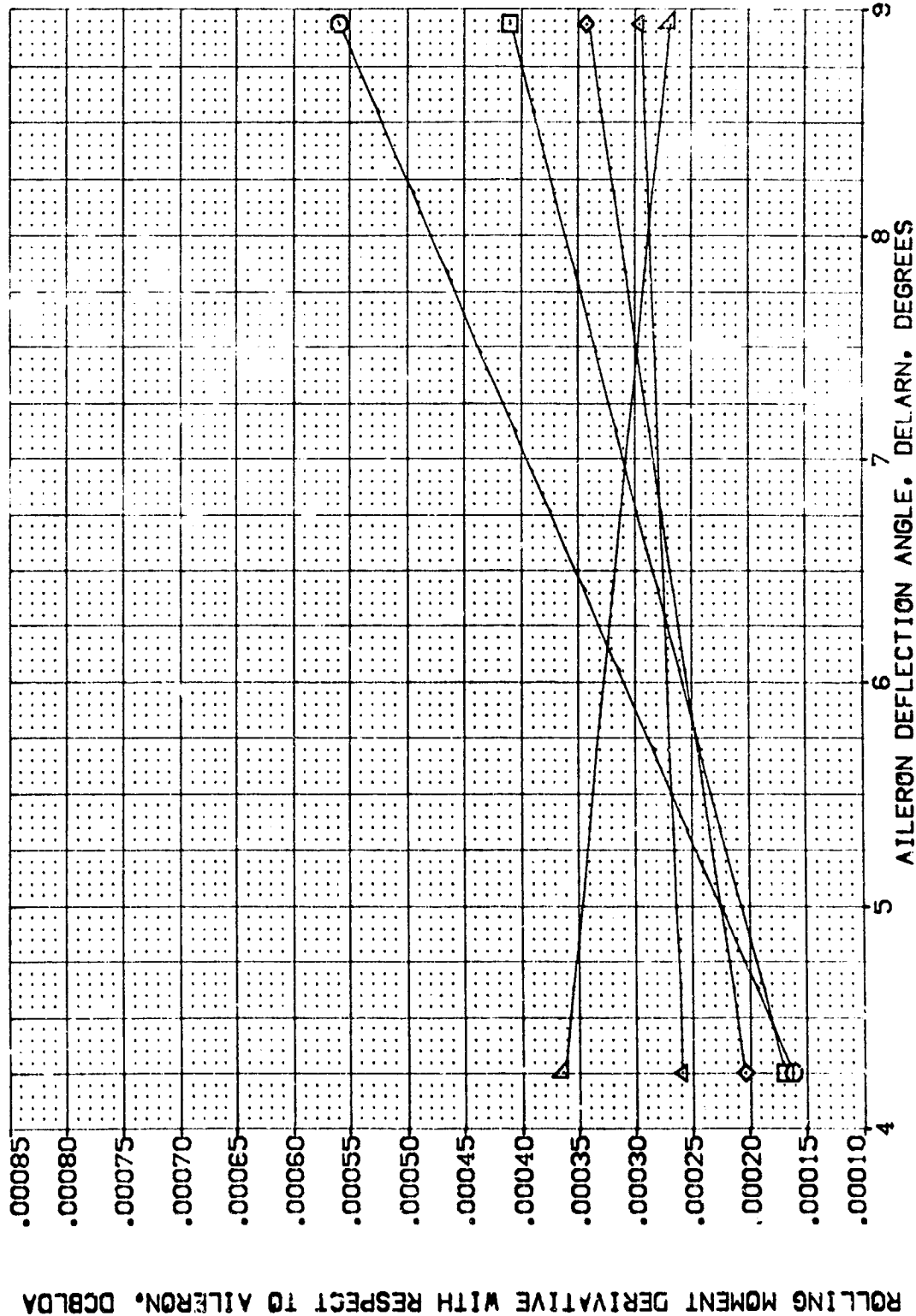
DATASET	DELTA	SREF
992091	8.940	LREF
		BREF
		YPRP
		YPRP
		ZPRP
		SCALE

REFERENCE INFORMATION	
	SQ. FT
2741.8000	IN.
481.6480	IN.
936.7000	IN.
1081.3000	IN.
.0000	IN.
.0000	IN.
.0040	IN.



MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992081)

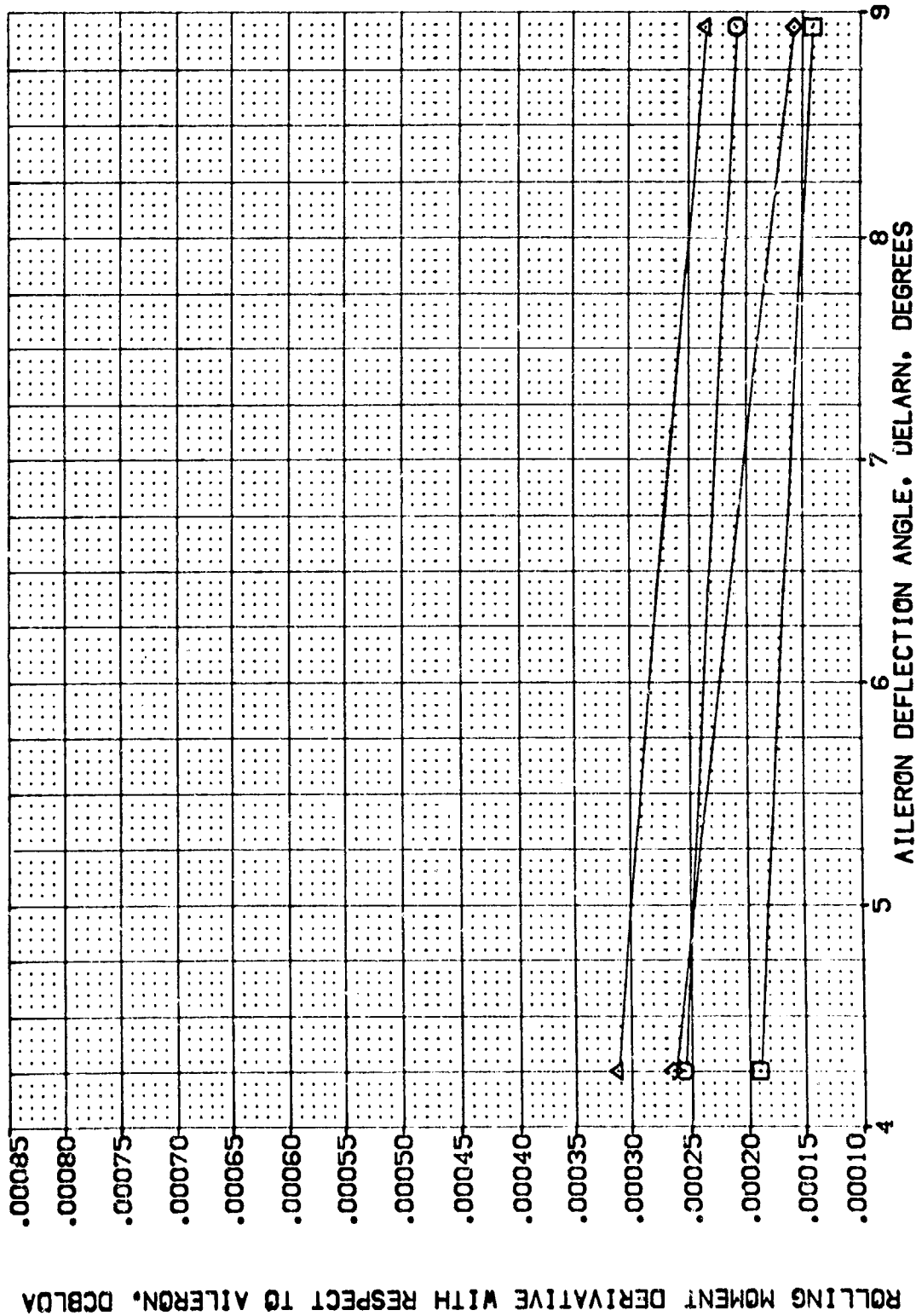
SYMBOL		ALPHA		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	□	◇	△	MACH	ELEVTR	-24.060	DATASET	DELARN	SREF
				BDFLAP	-11.700	23.550	992081	0.940	LREF
				BETA	SPDRK	.000			BREF
				CONF16	RUDER				XREF
									YREF
									ZREF
									SCALE



LINEAR RANGE OF AILERONS

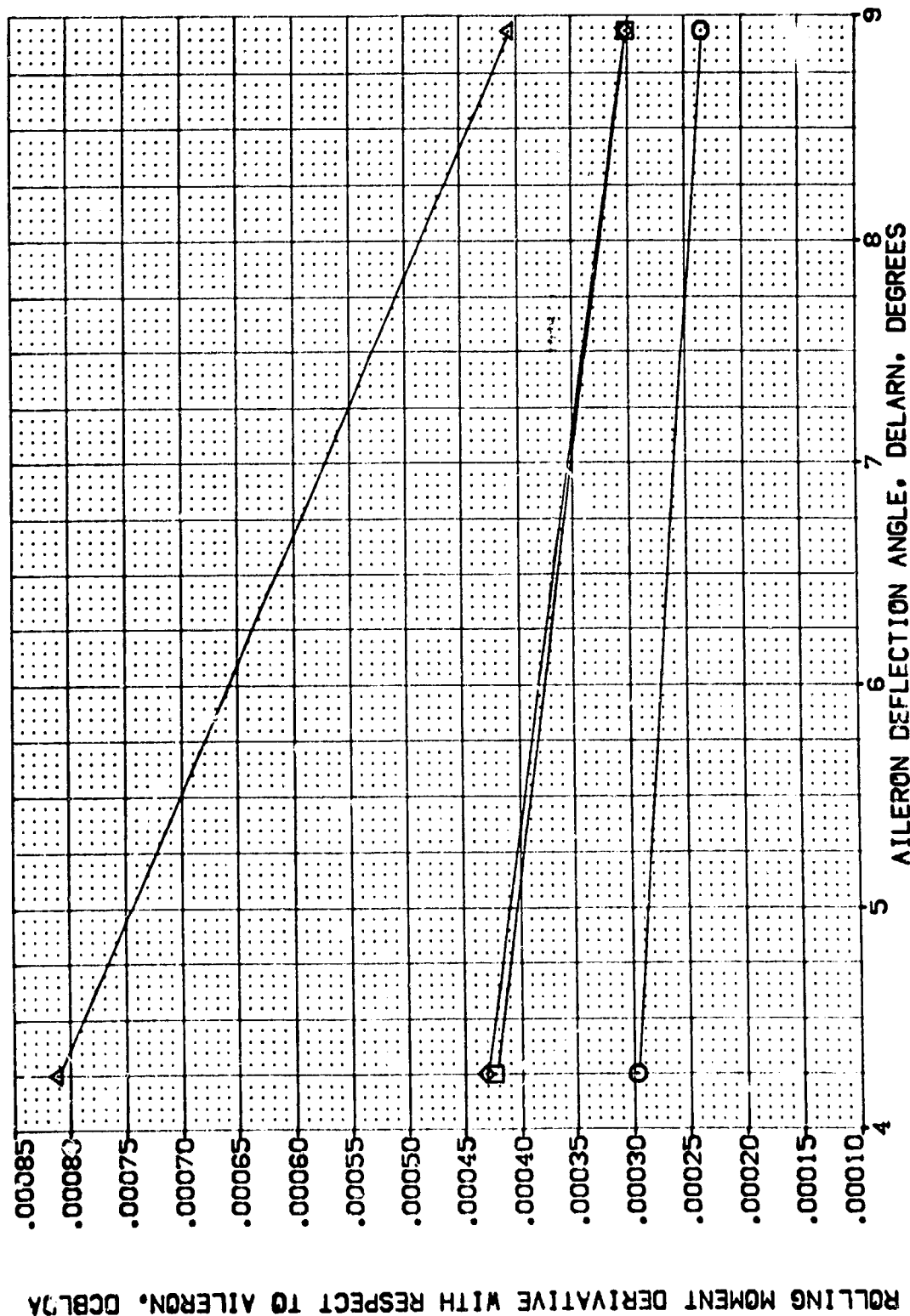
MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992081)

SYMBOL		ALPHA		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	□	25.000	MACH	2.590	ELEVTR	-24.060	DATASET	DELARN	SREF
◇	△	30.000	BDFLAP	-11.700	SPOBRK	25.550	992081	8.940	LREF
		35.000	BETA	.000	RUDDER	.000			BREF
		40.000	CONFIG	1.000					XREF
									YREF
									ZREF
									SCALE
									SO. FT
									IN.
									IN.
									IN.
									IN.
									IN.



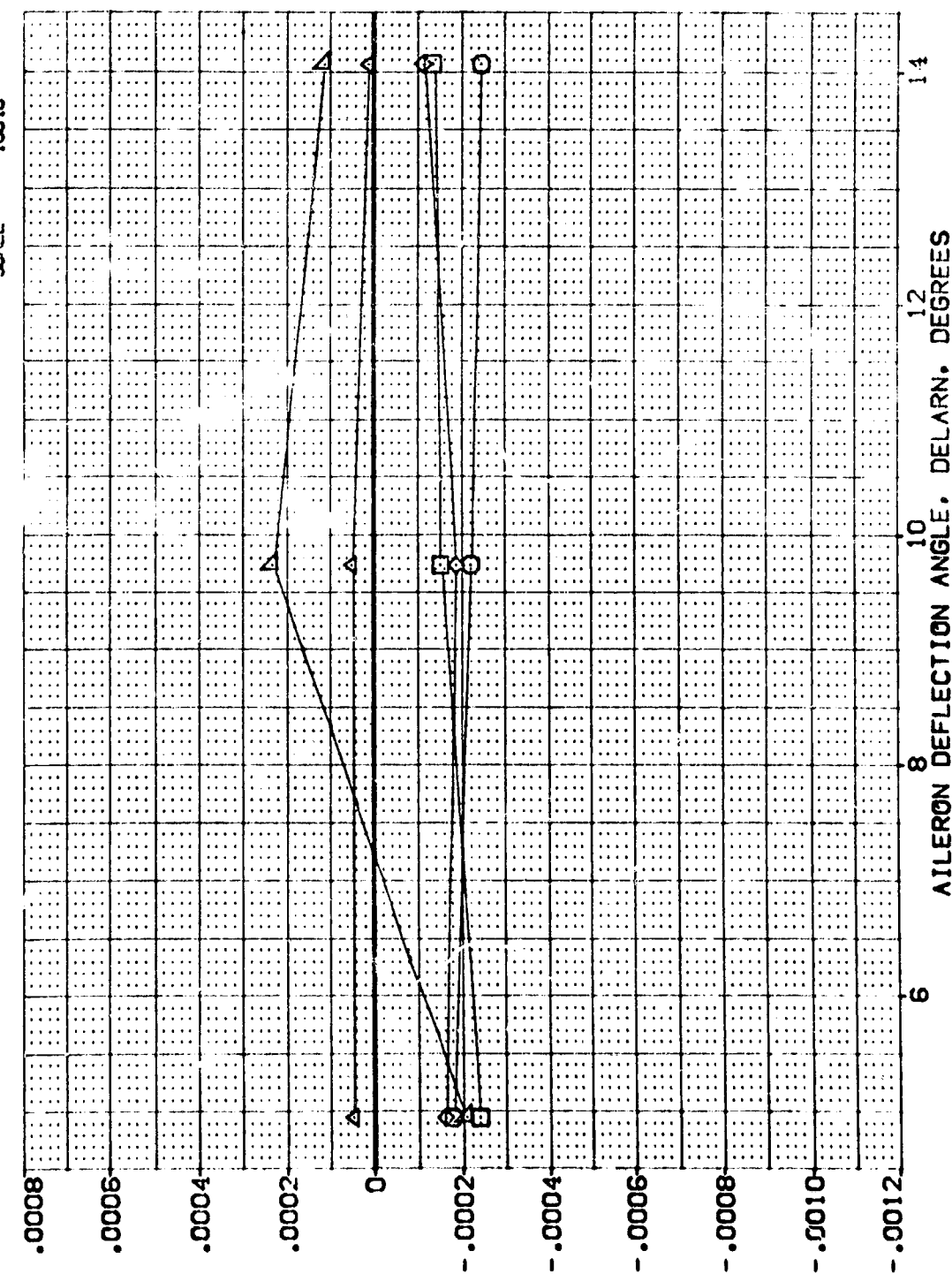
(992081)

REFERENCE INFORMATION	SG. FT
2741.8000	IN.
481.6480	IN.
536.7000	IN.
1081.3500	IN.
0.0000	IN.
0.0000	IN.
0.0040	IN.



LINEAR RANGE OF AILERONS

SYMBOL	ALPHA	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
	0.000	MACH	2.950	ELEVTR	-14.670	DATASET	DELARN	SREF	27.1	9000	SQ. FT
	5.000	BDFLAP	-11.700	SPOBRK	25.550	992083	4.940	REF	491.6	150	IN.
	10.000	BETA	.000	RUDER	.000	992088	14.070	REF	67	7000	IN.
	15.000	CONF18	1.000				XMRP	106	3000	IN.	
20.000							YMRP	.0000	.0000	IN.	
								ZMRP	.0000	.0000	IN.
								SCALE	.0040		



(992083)



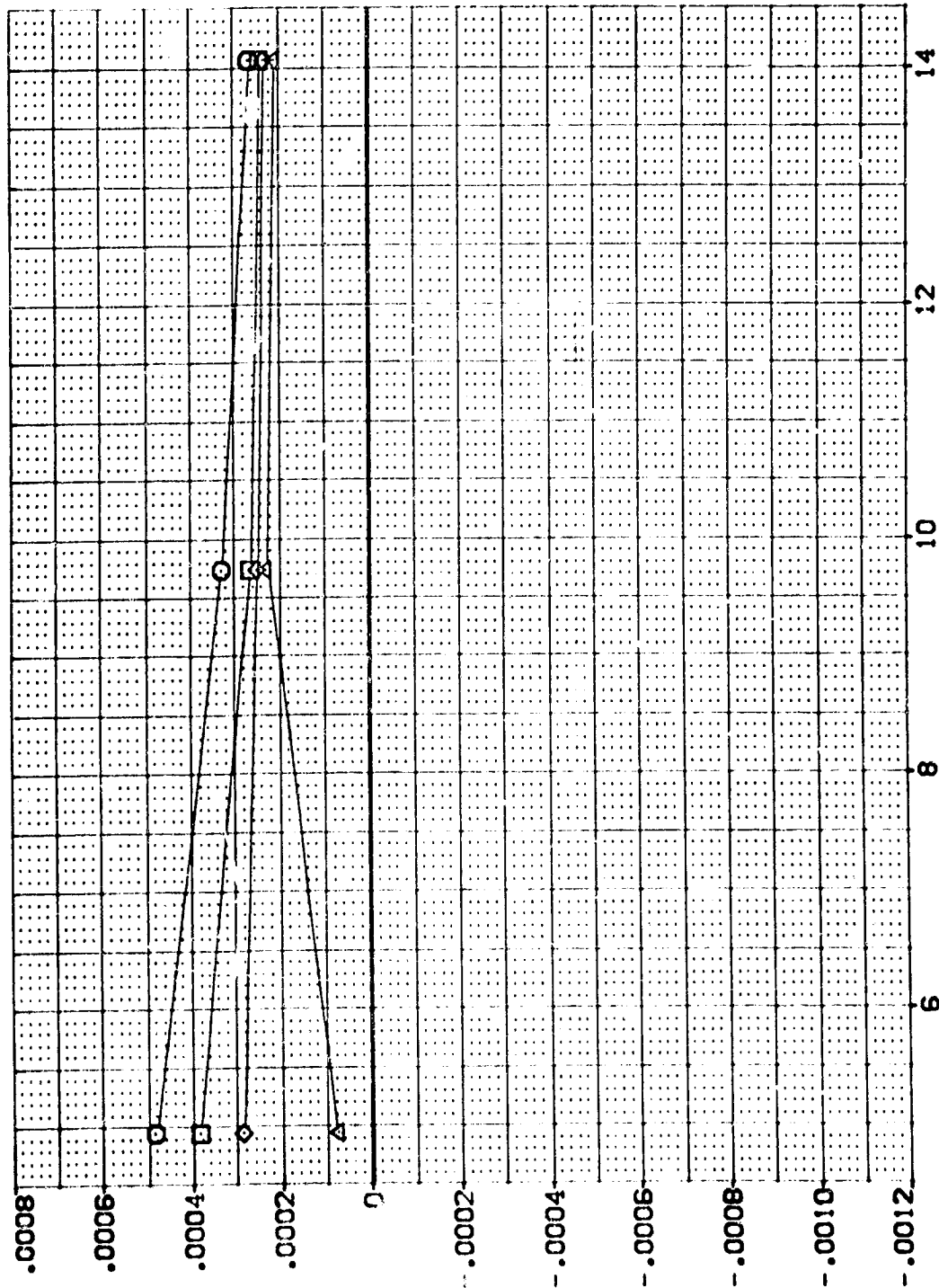
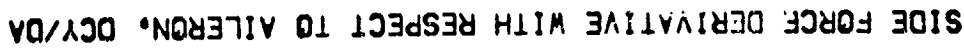
ALPHA	MACH
25,000	BOFLAP
30,000	BETA
35,000	CONFIG
40,000	

PARAMETRIC VALUES	
ELEVTR	2.950
SPOBRX	-11.700
RUDDER	.000
	1.000

DATA SOURCE
DELRN
4.940
14.070

DATASET DELAYN 9.730

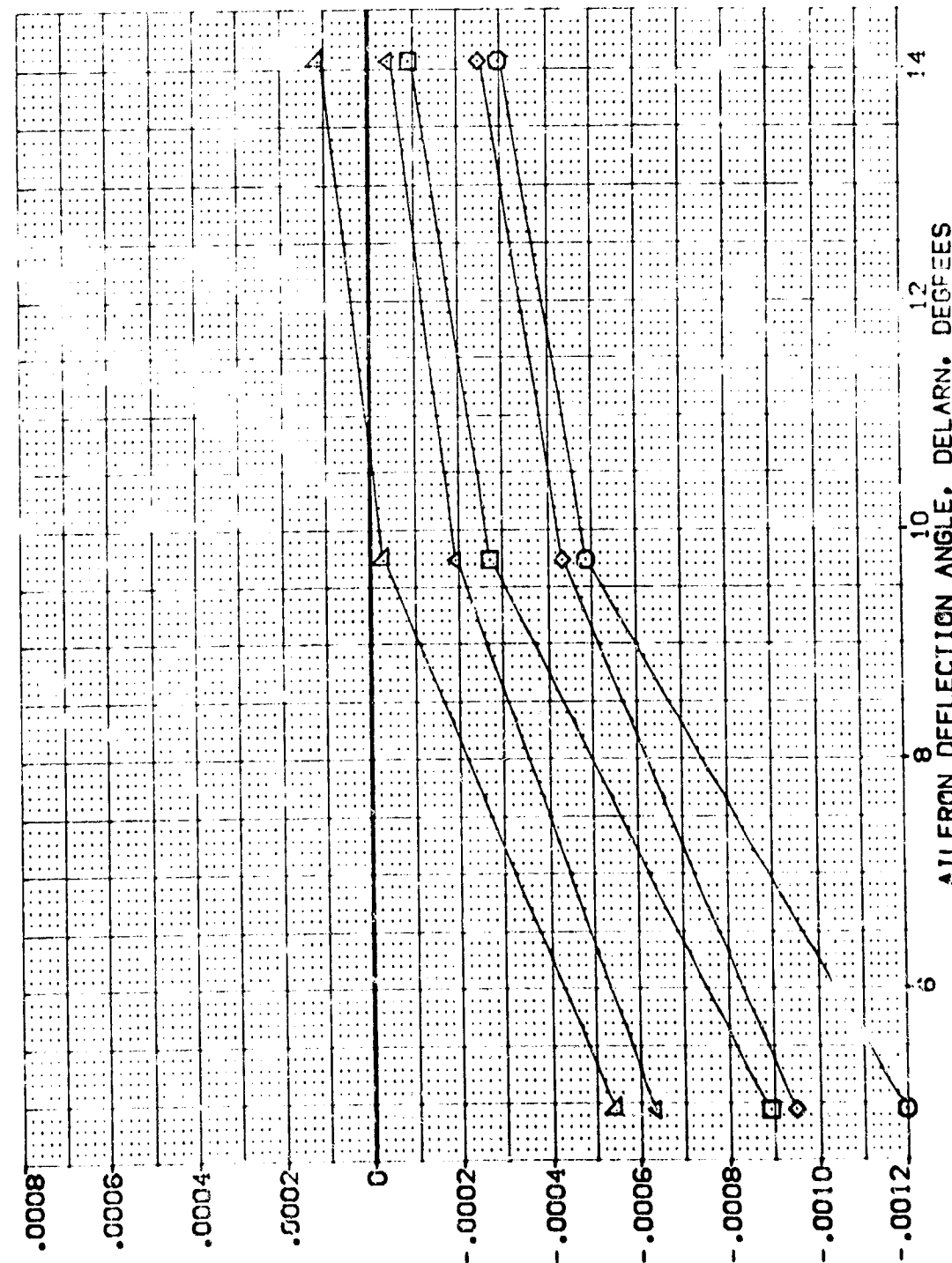
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2741.6000	IN.
481.6480	IN.
936.7000	IN.
1081.3800	IN.
.0000	IN.
.0000	IN.
.0040	IN.



LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992083)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
.000	MACH 4.560	-14.670 DATASET DELARN	2741.8000 SQ. FT
5.000	BDFLAP -11.700	25.550 982083 4.940	451.6190 IN.
10.000	BETA .000	.000 982059 14.070	955.7000 IN.
15.000	CONFIS 1.000		100.3300 IN.
20.000			.0000 IN.
			.0000 IN.
			SCALE .0040



LINEAR RANGE OF AILERON'S

1/6

SYNOPSIS

ALPINA

PARAMETRIC VALUES

PARAMETRA

PARAMETRA

PARAMETRA

PARAMETRA

PARAMETRA

PARAMETRA

PARAMETRA

SETHI'S VALUES

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DATA SOURCE

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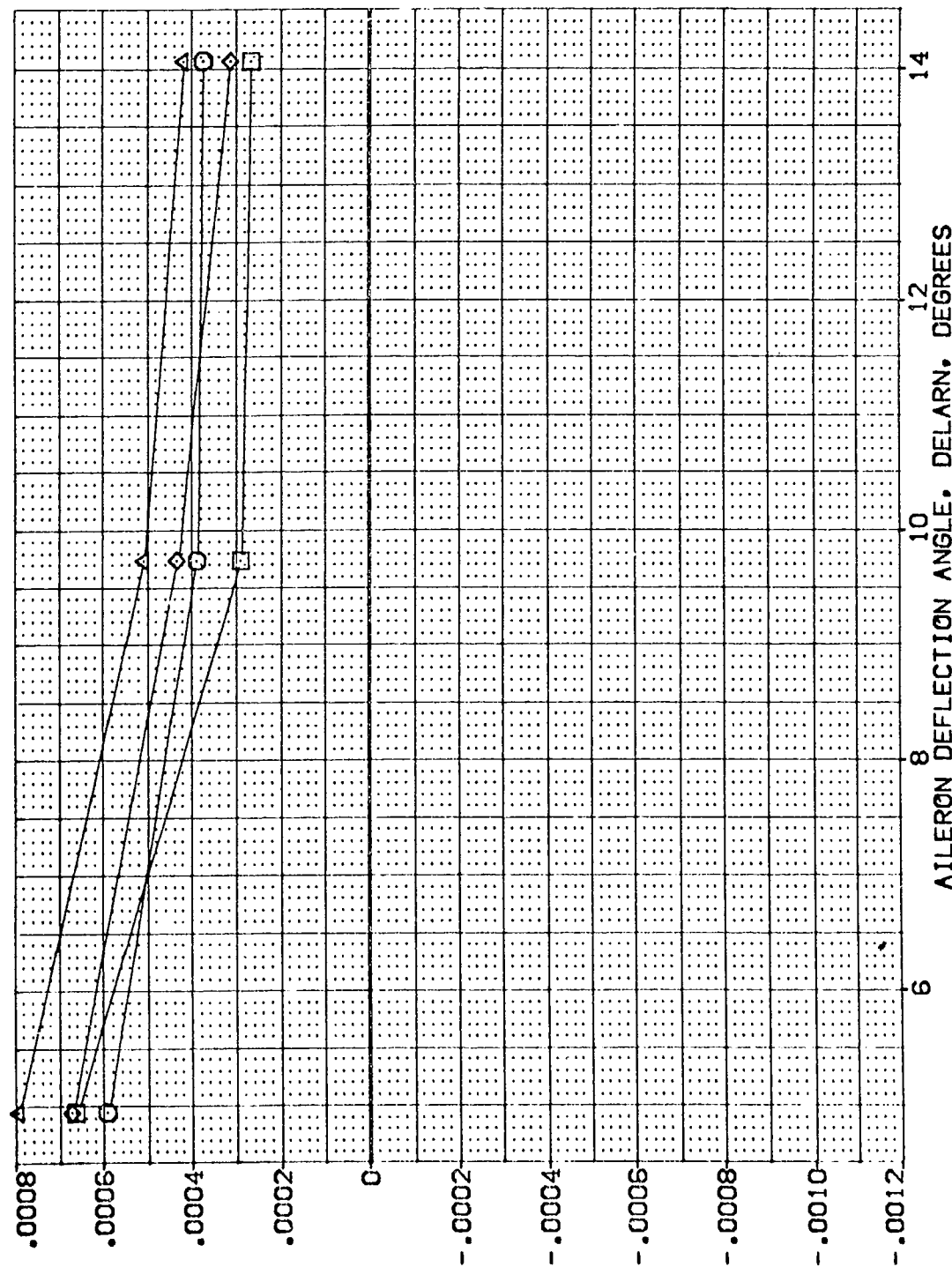
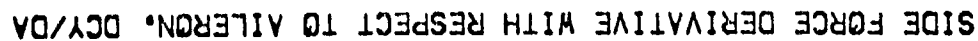
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REFERENCE INFORMATION

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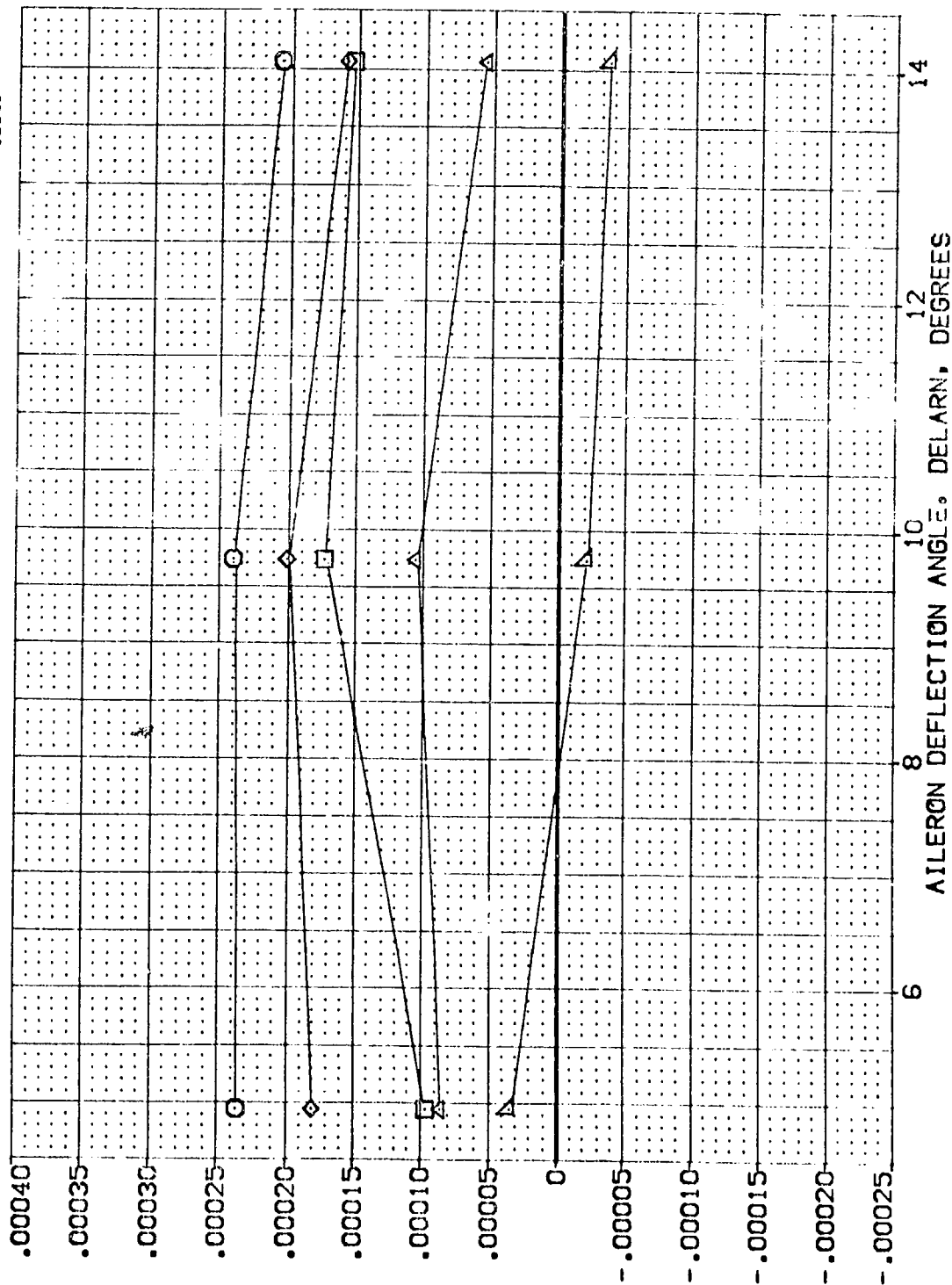
REFERENCE INFORMATION



LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORB 34-0 (BCFM)(VE)(VR) (992083)

SYMBOL	ALPHA	PARAMETRIC VALUES			DATA SOURCE			REFERENCE INFORMATION		
		MACH	ELEVTR	DELARN	DATASET	DELARN	SREF	2741	3000	SG: FT
○	.000	2.990	-14.670	992083	9.730	LREF	2741	3000	IN: IN:	
□	5.000	-11.700	25.550	992083	9.730	BREF	2741	3000	IN: IN:	
◇	10.000	.000	.000	992083	9.730	XREF	2741	3000	IN: IN:	
△	15.000	1.000	14.070	992083	9.730	YREF	2741	3000	IN: IN:	
▽	20.000					ZREF	2741	3000	IN: IN:	
						SCALE				



LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992083)

SYMBOL

ALPHA

25.000
30.000
35.000
40.000

MACH
BDFLAP
BETA
CONFIG

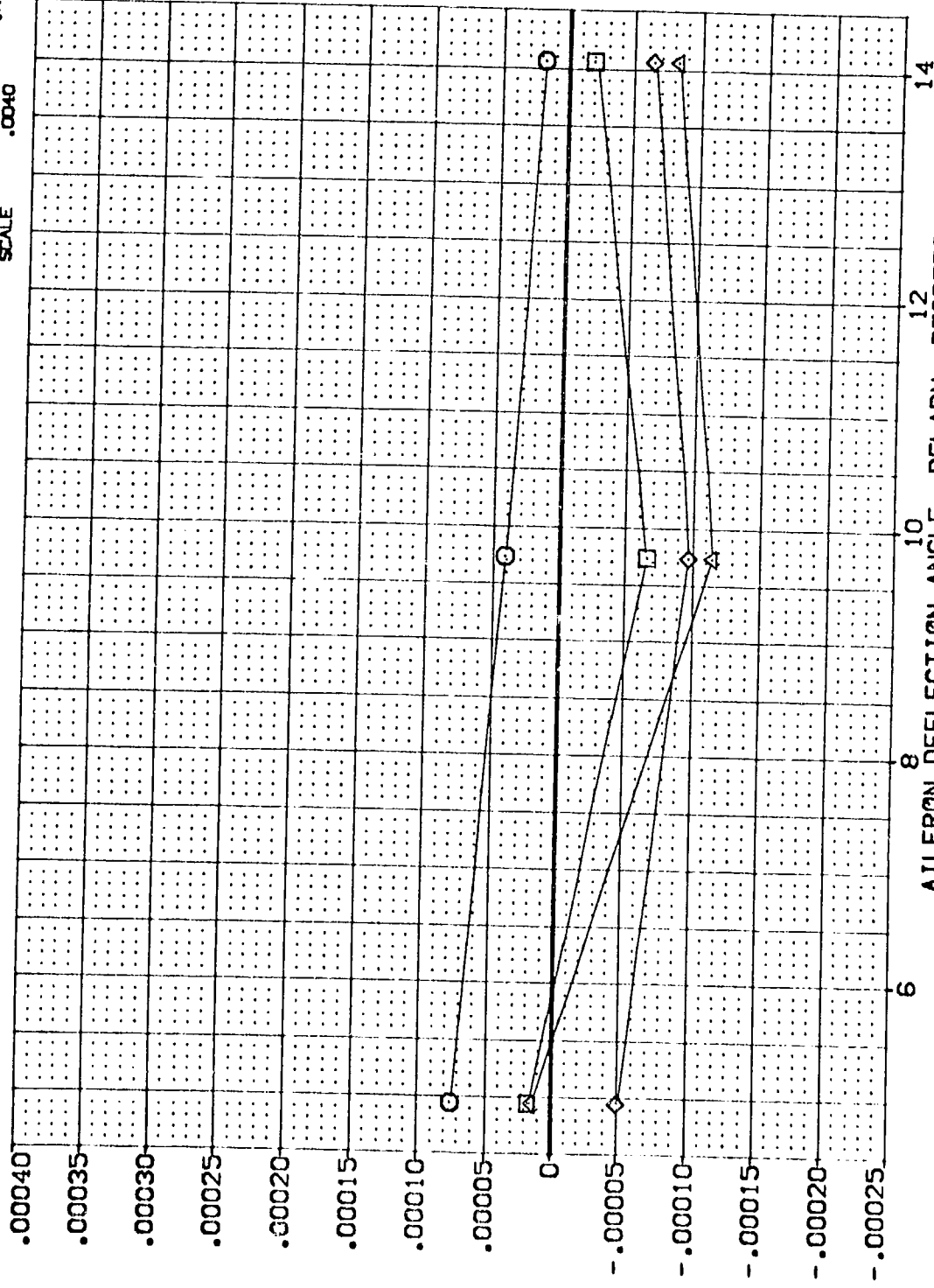
PARAMETRIC VALUES
2.990
-11.700
.000
1.000

ELEVTR
SPDRK
RUDDER

DATA SOURCE
DELARN
DATASET
992083

DELARN
9.730

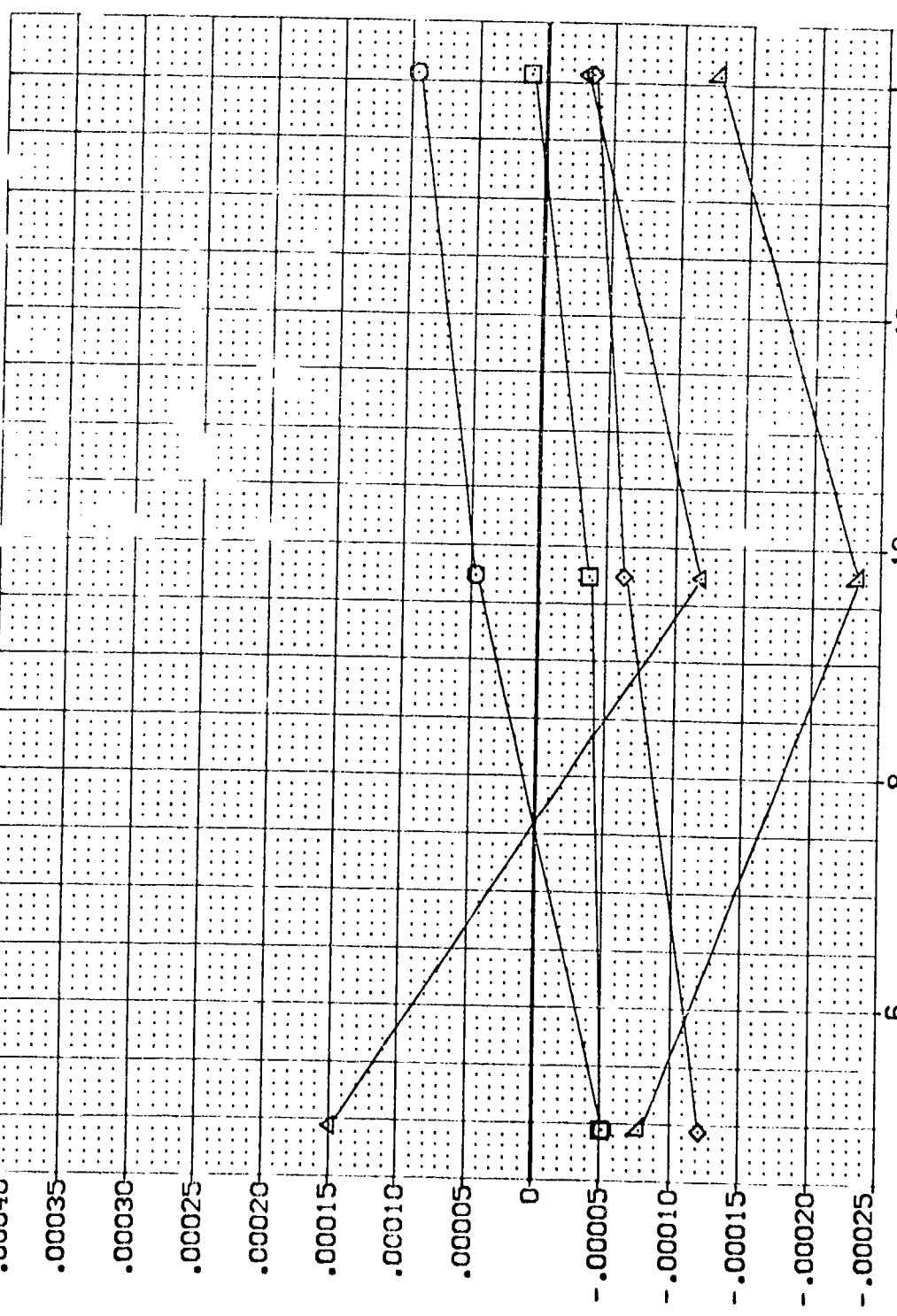
REFERENCE INFORMATION
SREF
LREF
XREF
YREF
ZREF
SCALE



YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYND/A

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992083)

SYMBOL		ALPHA		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	□	◇	△	MACH	ELEVTR	-14.670	DATASET	DELARN	SREF
○	□	◇	△	BOFLAP	SFDBRK	25.550	992003	9.730	2741.8000
○	□	◇	△	BETA	RUDDER	.000	992089		481.5490
○	□	◇	△	CONF16		1.000			933.7000
○	□	◇	△						1061.3500
○	□	◇	△						.0000
○	□	◇	△						.0000
○	□	◇	△						.0040



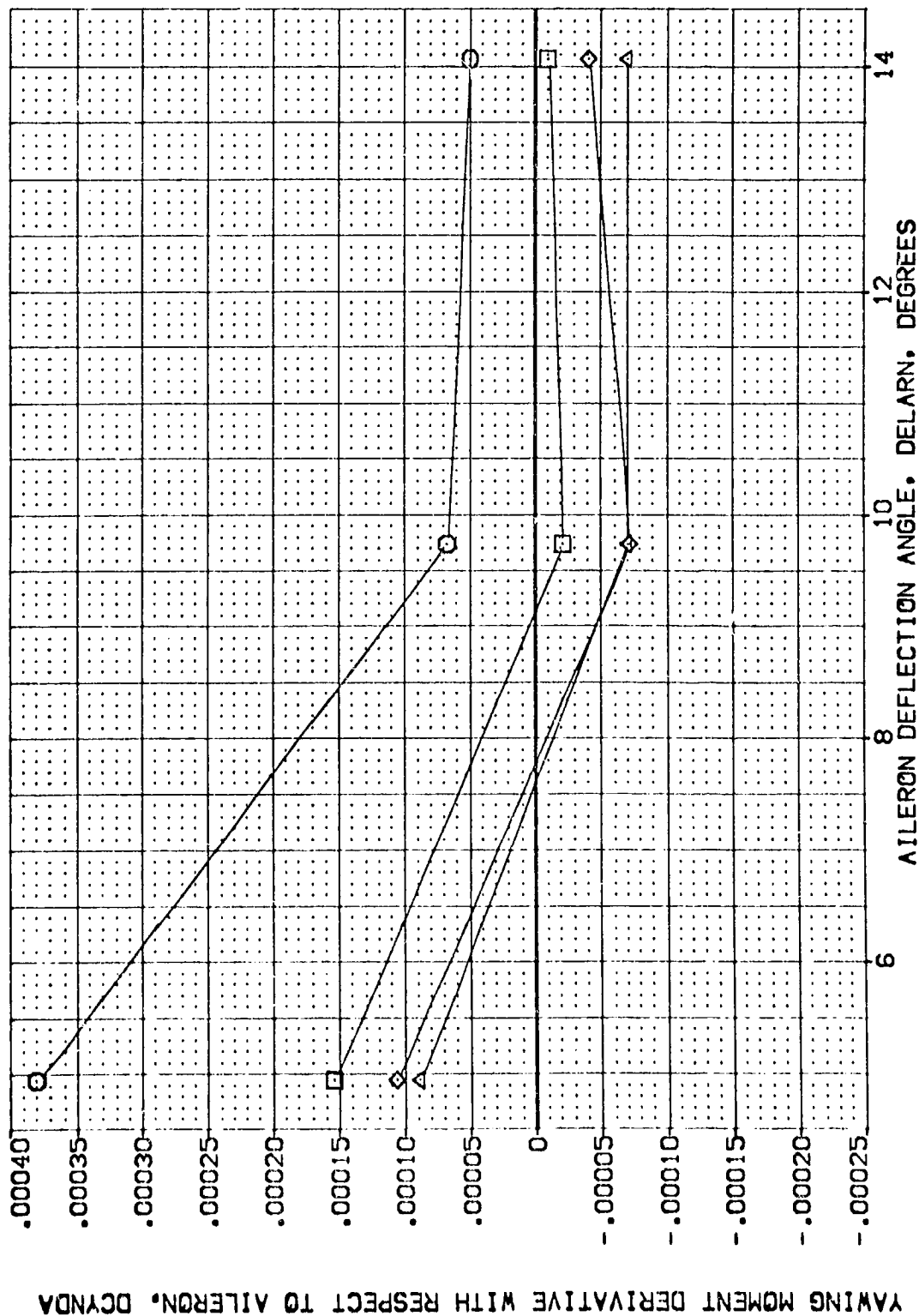
YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYDA

AILERON DEFLECTION ANGLE, DELARN, DEGREES

LINEAR RANGE OF AILERONS

(992083)

SYMBOL	ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	25.000	4.950	DELARN	SREF 2741.8000 SQ. FT
□	30.000	-11.700	DELARN	LREF 481.5480 IN.
◇	35.000	SPDBRK	9.730	BREF 935.7000 IN.
◇	35.000	RUDDER	14.070	XPRP 1081.3500 IN.
◇	40.000	1.000		YPRP .0000 IN.
				ZPRP .0000 IN.
				SCALE .0040



LINEAR RANGE OF AILERONS

(992083)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

REFERENCE INFORMATION
 2741.8000 SQ. FT
 481.6480 IN.
 936.7000 IN.
 1061.3900 IN.
 .0000 IN.
 .0000 IN.
 .0040 IN.
 SCALE

DATA SOURCE
 DELARN 9.730
 DATASET 992083

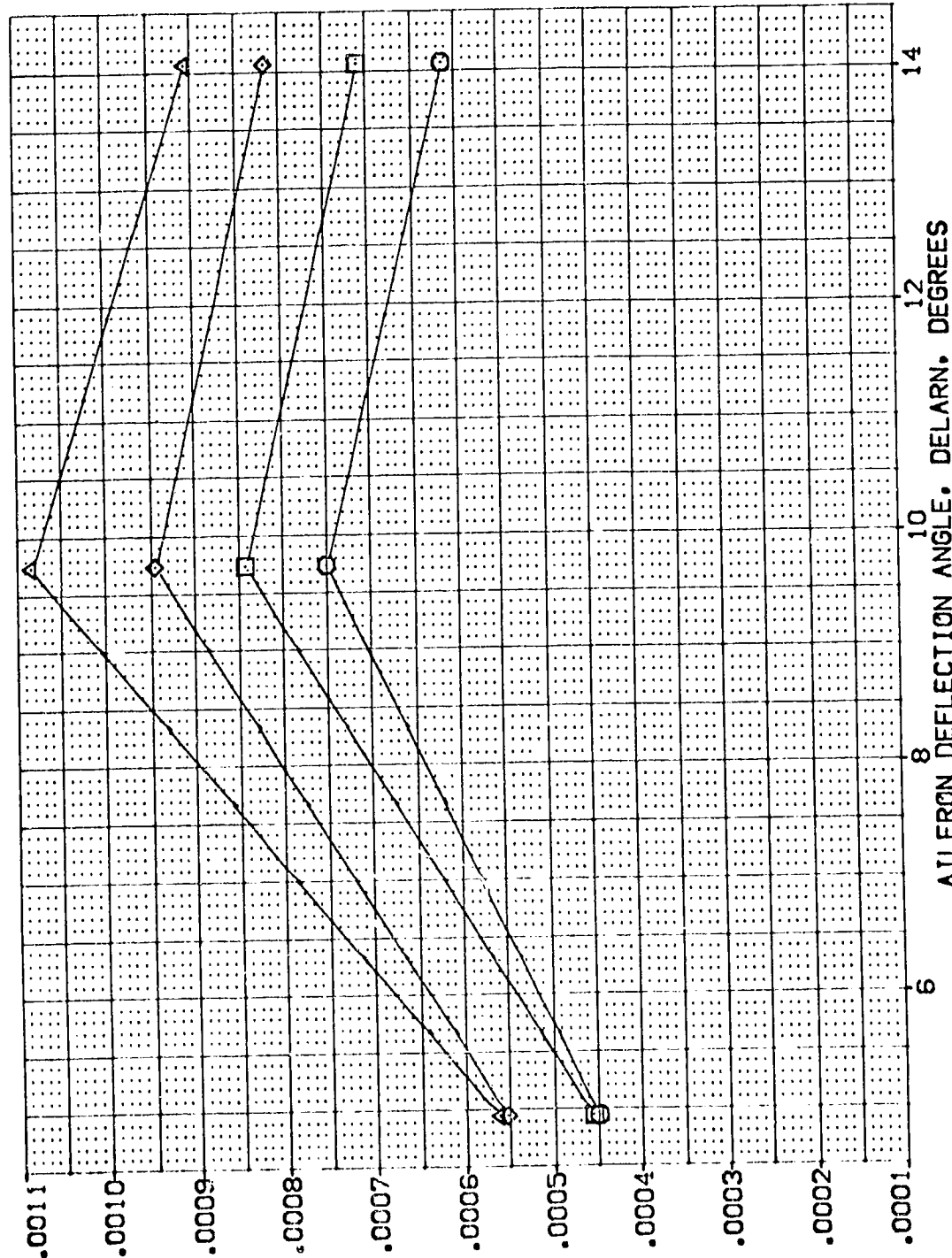
PARAMETRIC VALUES
 -14.670 DATASET
 25.950 DELARN
 4.940
 14.070

PARAMETRIC VALUES
 2.950 ELEVTR
 -11.700 SPDRK
 .000 RUDDER
 1.000

PARAMETRIC VALUES
 MACH 2.950
 BDFLAP -11.700
 BETA .000
 CONFIG 1.000

PARAMETRIC VALUES
 ALPHA 25.000
 30.000
 35.000
 40.000

SYMBOL
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LINEAR RANGE OF AILERONS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992083)

702-458

ALPHA
0.000
5.000
10.000
15.000
20.000

PARAMETRIC VALUES	
ELEVTR	4.950
SPDRK	-11.700
RUDDER	.000
	1.000

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DATA SOURCE
DELRN
4.940
14.070

680266 06176
DATA SET 2 TEL

1302
1303
1304
1305

REFERENCE INFORMATION	SQ. FT
2741-8000	IN.
481-6480	IN.
936-7000	IN.
1081-3500	IN.
0000	IN.
0000	IN.
0040	IN.

A line graph showing the relationship between Aileron Deflection Angle (in degrees) on the x-axis and Delay Angle (in degrees) on the y-axis. The x-axis ranges from 6 to 14 degrees, and the y-axis ranges from 0.0001 to 0.011 degrees. Five data series are plotted, each representing a different airspeed: 100 mph (diamonds), 120 mph (squares), 140 mph (circles), 160 mph (triangles), and 180 mph (crosses). All series show a decreasing trend as the delay angle increases. The 180 mph series has the highest delay angles for a given deflection angle, while the 100 mph series has the lowest.

Airspeed (mph)	Deflection Angle (deg)	Delay Angle (deg)
100	0.00015	5.5
100	0.00025	6.5
100	0.00040	8.0
100	0.00045	10.0
100	0.00048	14.0
120	0.00015	6.0
120	0.00025	7.0
120	0.00040	8.5
120	0.00045	10.5
120	0.00048	14.0
140	0.00015	6.5
140	0.00025	7.5
140	0.00040	9.0
140	0.00045	11.0
140	0.00048	14.0
160	0.00015	7.0
160	0.00025	8.0
160	0.00040	9.5
160	0.00045	11.5
160	0.00048	14.0
180	0.00015	7.5
180	0.00025	8.5
180	0.00040	10.0
180	0.00045	12.0
180	0.00048	14.0

AILERON DEFLECTION ANGLE, DEGREES, 8 10 12

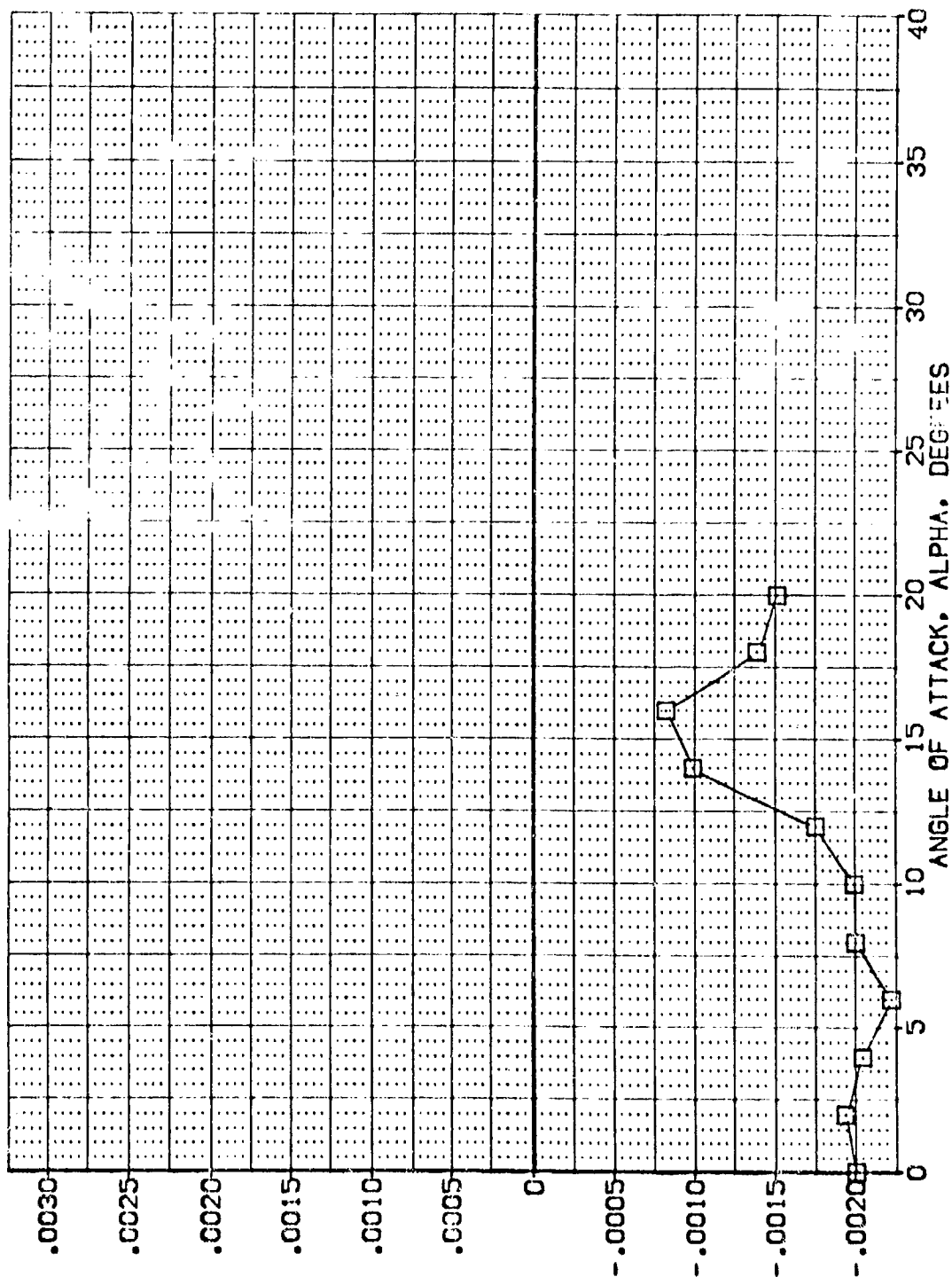
LINEAR RANGE OF AILERONS

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (PZ009) DATA NOT AVAILABLE
 (PZ2105) HSC 581(049) ORB 34-0 (BDM)(VE)(VR)

DELARN ELEVTR BOTLAP SPDBRK
 3.730 12.040 -11.00 25.550
 3.730 12.040 16.300

REFERENCE INFORMATION
 SREF 2741.8000 SC: FT
 LREF 481.6450 IN:
 BREF 936.7000 IN:
 XTRP 1081.3500 IN:
 YTRP .0000 IN:
 ZTRP .0000 IN:
 SCALE .0040

SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA



BODY FLAP - AILERON INTERACTION

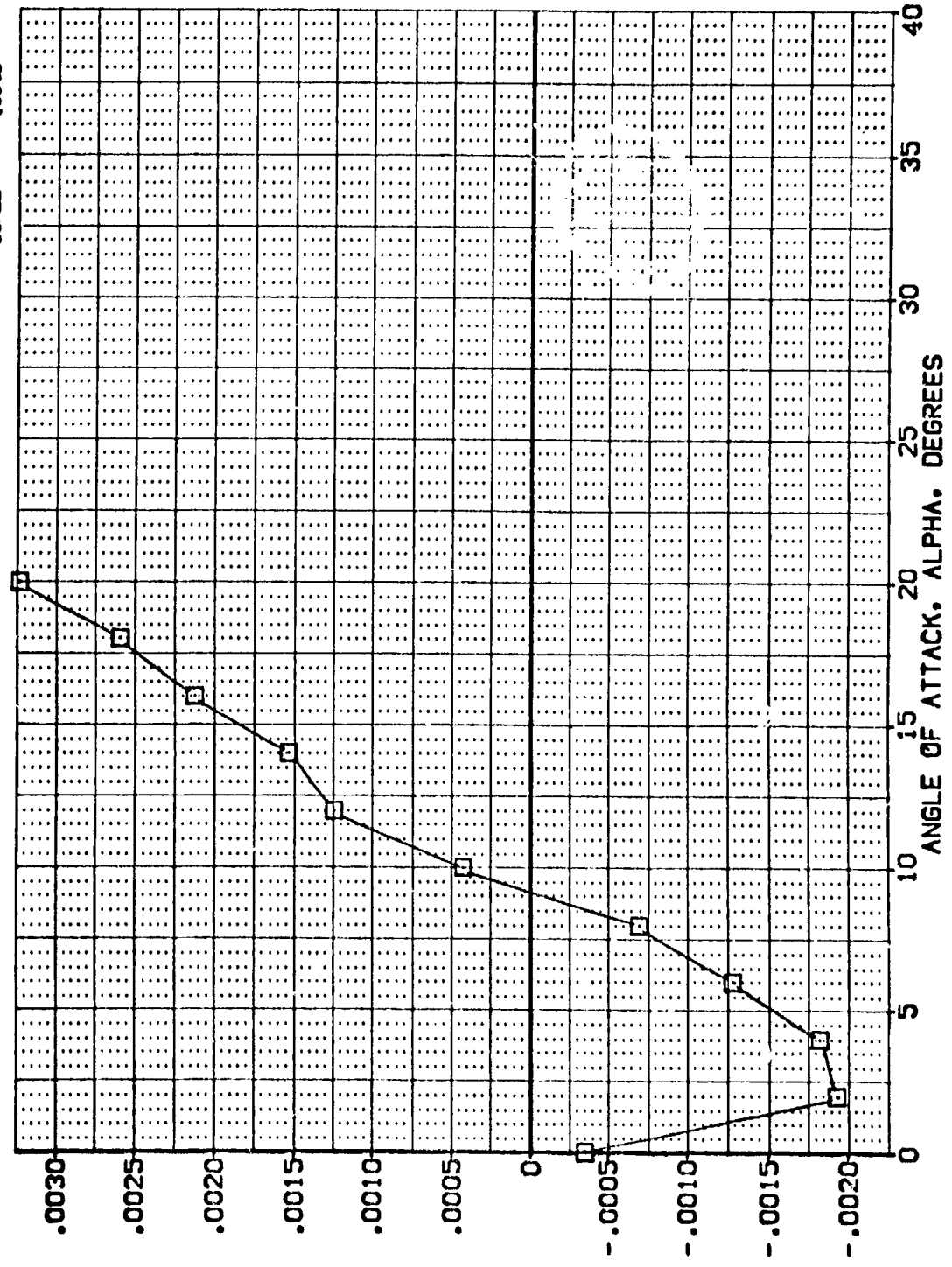
(A)MACH = .59

DATA SET SYMBOL: 0122105
 CONFIGURATION DESCRIPTION: DATA NOT AVAILABLE
 REF: 581(5449) ORB 34-0 (BOTH)(VE)(VR)

DELTA IN: 3.730
 ELEVTR: 12.040
 BOFLAP: -11.700
 9703RK: 25.550

REFERENCE INFORMATION
 SREF: 2741.8000 90. FT
 LREF: 481.6480 IN.
 BREF: 826.7000 IN.
 XREF: 1081.3500 IN.
 YREF: .0000 IN.
 ZREF: .0000 IN.
 SCALE: .0040

SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA



BODY FLAP - AILERON INTERACTION

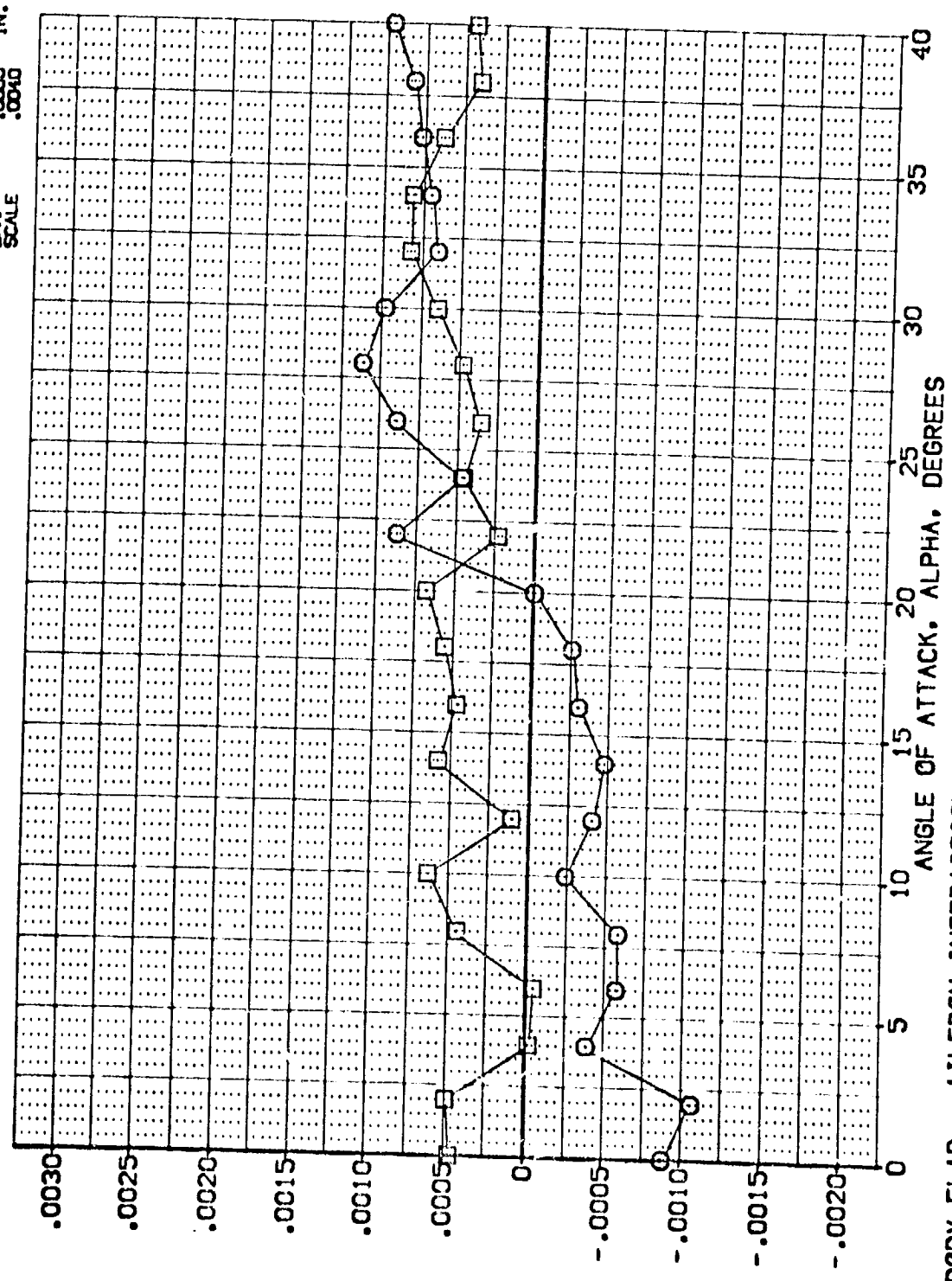
(B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {P22083} 018 34-0 {B0H1}{VE}{VR}
 {P22105} 018 34-0 {B0H1}{VE}{VR}

DELTAH ELEVTR BOFLAP SPDRK
 3.730 12.040 -11.700 25.500
 3.730 12.040 16.300 25.500

REFERENCE INFORMATION
 SREF 2741.8000 90. FT
 LREF 481.6180 IN.
 BREF 936.7000 IN.
 XTRP 1081.3500 IN.
 YTRP .0000 IN.
 ZTRP .0000 IN.
 SCALE .0040

SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA

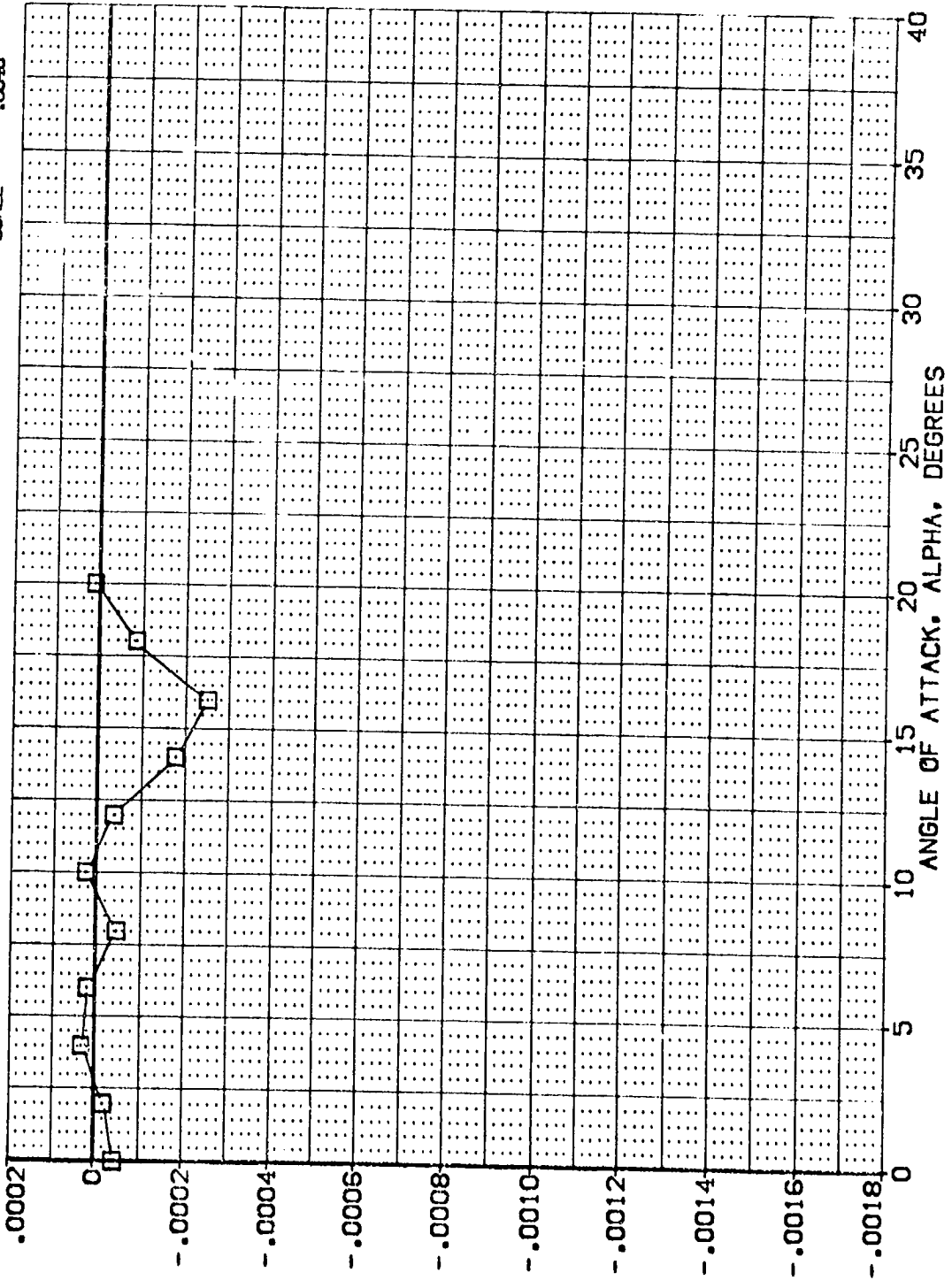


BODY FLAP - AILERON INTERACTION

COMACH = 4.96

DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 {P52089} DATA NOT AVAILABLE
 {P52105} MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

DELTA W ELEVTR BOFLAP SP35BK
 3.730 12.040 -11.700 25.550
 3.730 12.040 16.300 25.550
 SREF 2741.0000 SQ: FT
 LREF 491.6450 IN:
 BREF 935.7000 IN:
 XMRP 1081.3500 IN:
 YMRP .0000 IN:
 ZMRP .0000 IN:
 SCALE .0040



YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYNDA

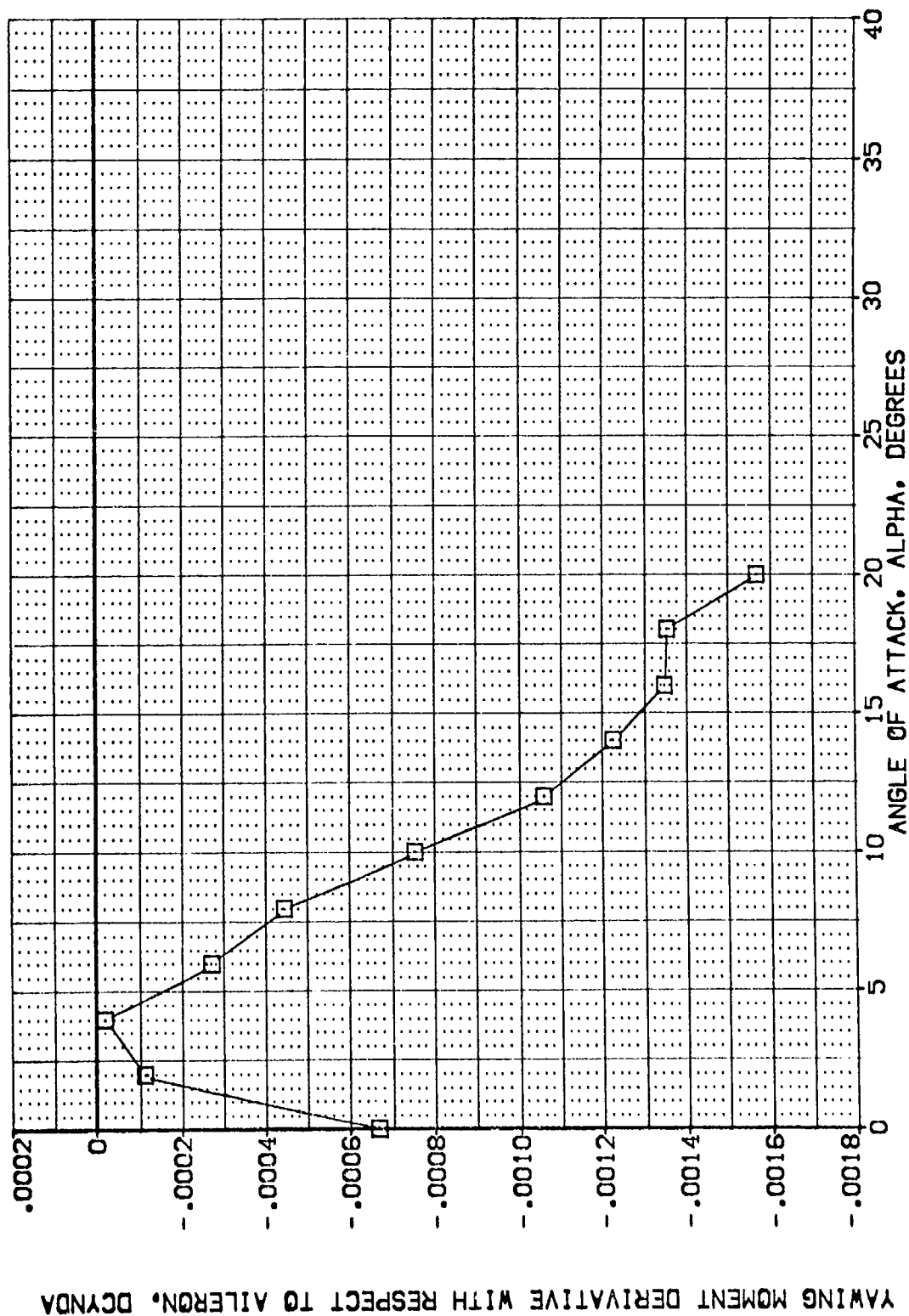
BODY FLAP - AILERON INTERACTION

(A)MACH = .59

DATA SET SYMBOL: ☐ (PS2008) ☐ (PS2105) CONFIGURATION DESCRIPTION: DATA NOT AVAILABLE
 REF 34-0 (BOFH)(VE)(VR)

DELARN 3.730 3.730 ELEVTR 12.040 12.040 BOFLAP -11.700 16.300 900BRK 25.550 25.550

REFERENCE INFORMATION
 SREF 2741.8000 92. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



BODY FLAP - AILERON INTERACTION

(B)MACH = .90

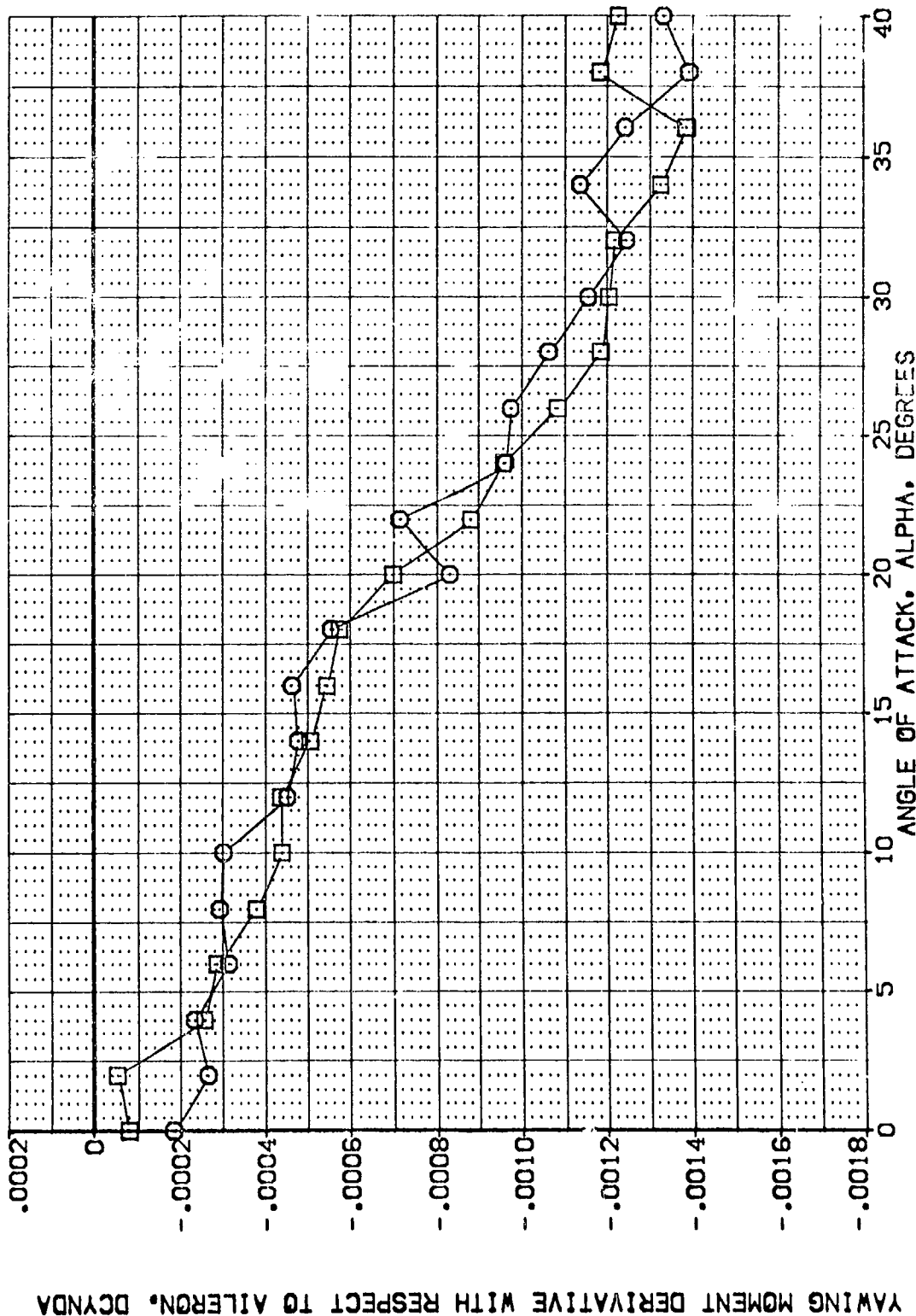
DATA SET SYMBOL: (P52029) (P52105)

CONFIGURATION DESCRIPTION

MSFC 501(0449) ORB 34-0 (BDFM)(VE)(VR)
MSFC 581(0449) ORB 34-0 (BDFM)(VE)(VR)

DELTA IN ELEVTR 80FLAP 80DPRK
3.730 12.040 -11.700 25.550
3.730 12.040 16.300 25.550

REFERENCE INFORMATION
SREF 2741.6000 50. FT
LREF 481.6460 IN.
BREF 936.7000 IN.
XMRP 1081.3500 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040

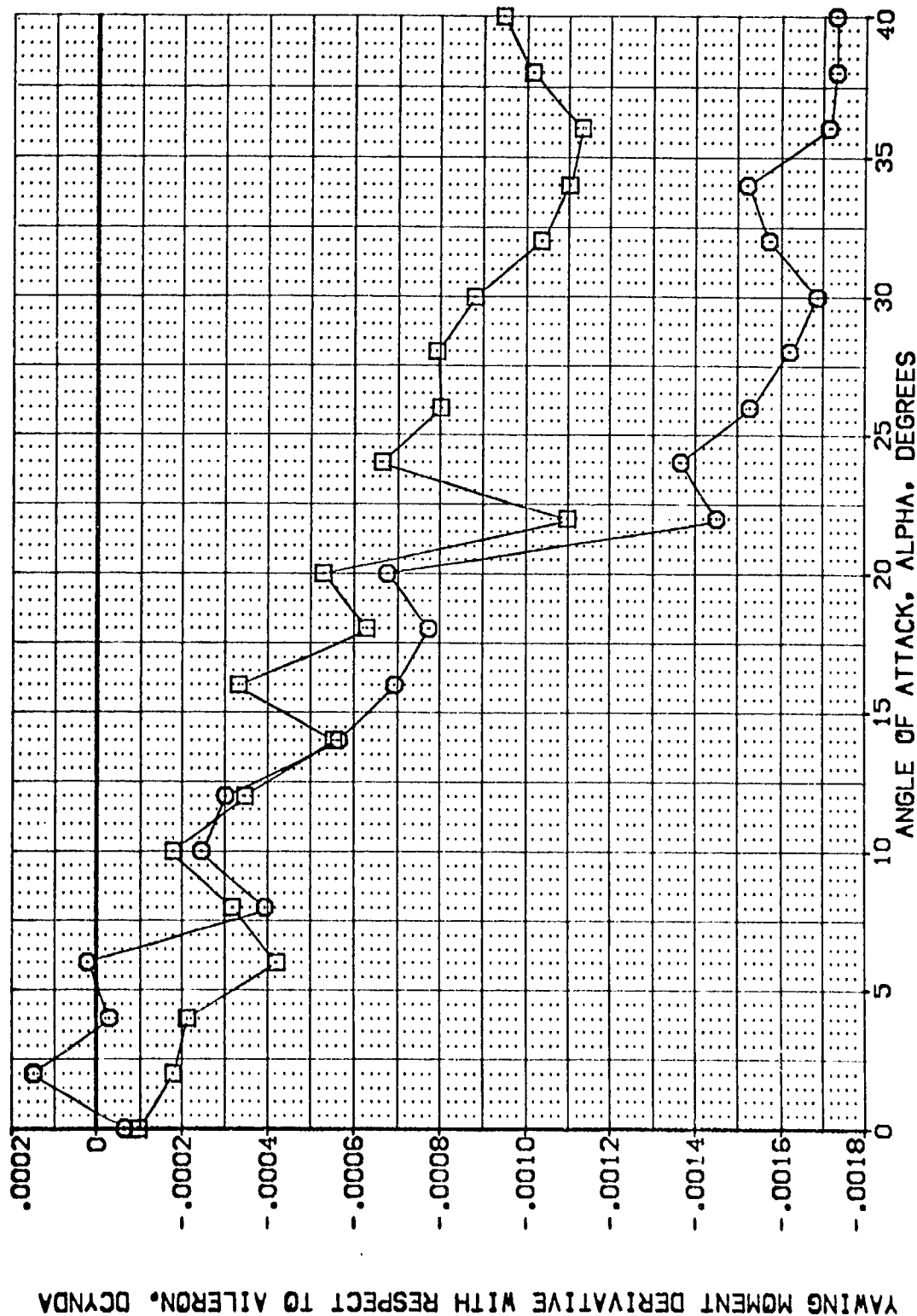


BODY FLAP - AILERON INTERACTION

(C)MACH = 2.99

DELARN	ELEVTR	BOFLAP	SPDRBK
3.730	12.040	-11.700	25.550
3.730	12.040	16.300	25.550

REFERENCE INFORMATION		
SREF	2741.8000	80. FT
LREF	481.6480	IN.
BREF	936.7000	IN.
XMRP	1081.3900	IN.
YMRP	.0000	IN.
ZMRP	.0000	IN.
SCALE	.0040	



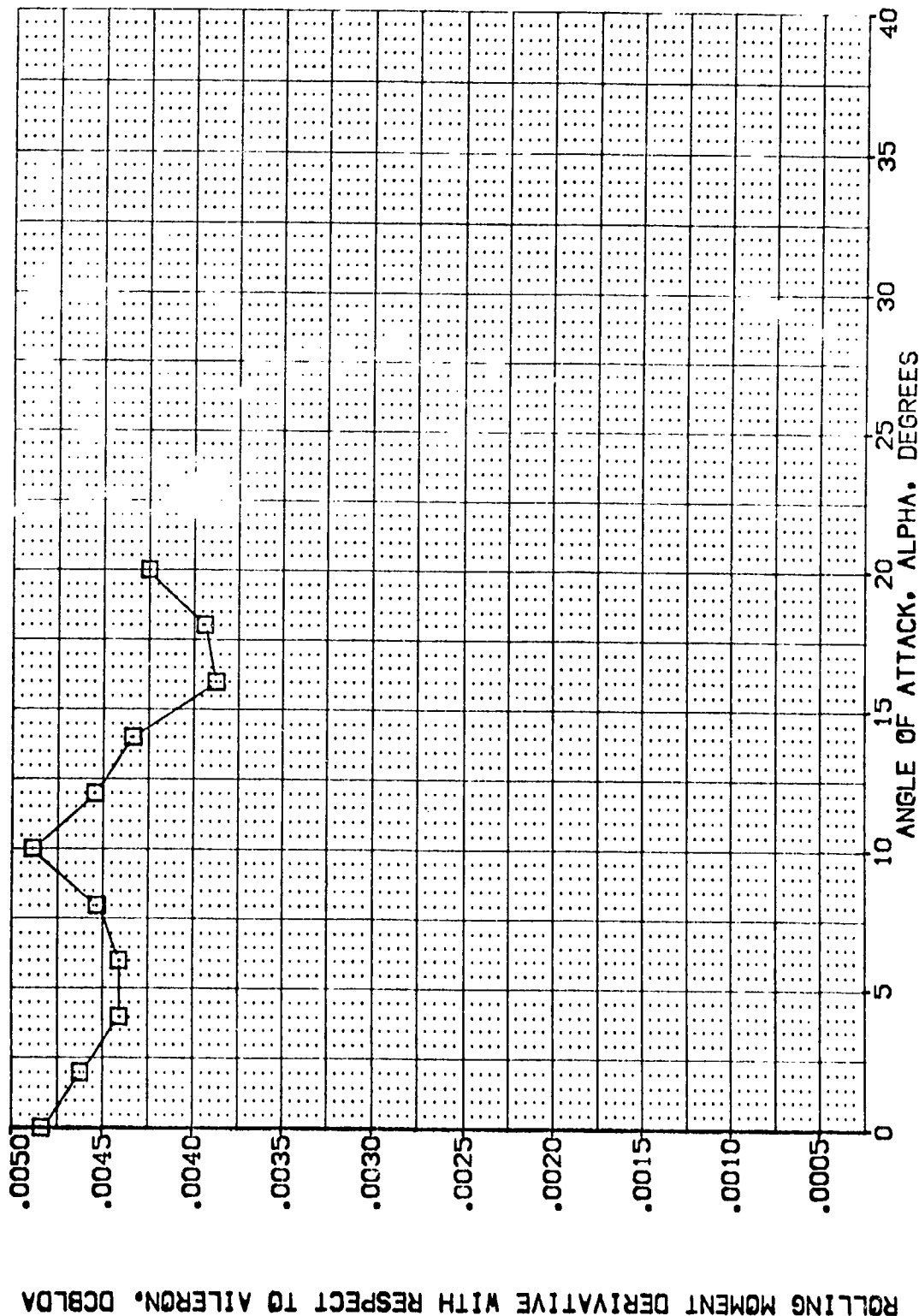
BODY FLAP - AILERON INTERACTION

CD)MACH = 4.96

DATA SET SYMBOL: **Q** CONFIGURATION DESCRIPTION:
 {#22039} DATA NOT AVAILABLE
 {#22105} MSFC 581(0A49) DBB 34-0 (BCFM)(VE)(VR)

DELTA IN ELEVATOR E-FLAP 9-10.3K
 3.730 12.0.0 -11.700 25.550
 3.730 12.0.0 16.300 25.550

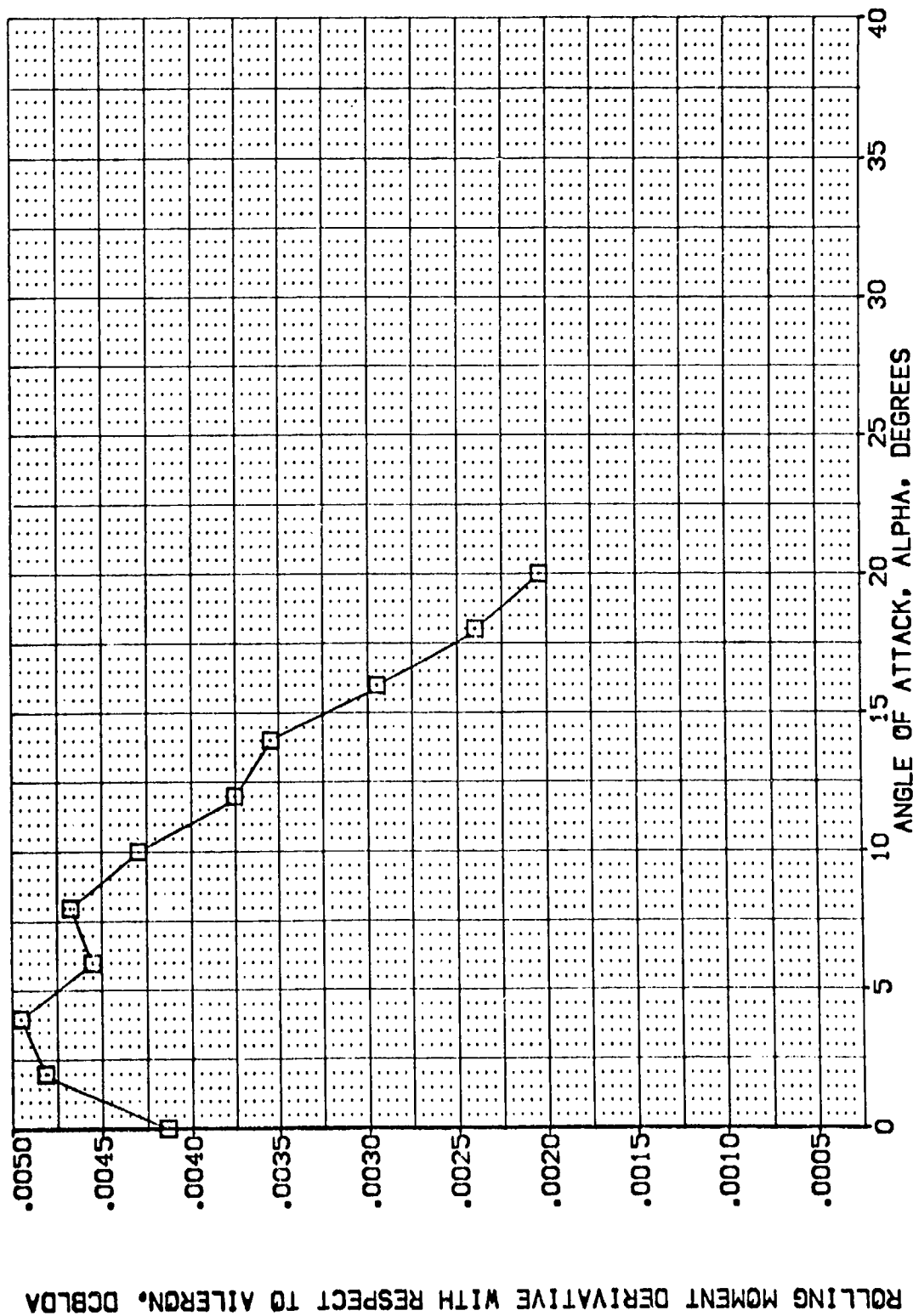
REFERENCE INFORMATION
 SREF 2741.8000 93. FT
 LREF 491.6450 IN.
 BREF 536.7000 IN.
 XMRP 1031.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



BODY FLAP - AILERON INTERACTION

(A)MACH = .59

DELARN	ELEVTR	BOFLAP	SPDBRK	REFERENCE INFORMATION	FT
3.730	12.040	-11.700	25.550	GREF	2741.8000
3.730	12.040	16.300	25.550	LREF	481.6480
				BRF	936.7000
				YPRP	1081.3500
				YPRP	.0000
				ZPRP	.0000
				SCALE	.0040



BODY FLAP - AILERON INTERACTION

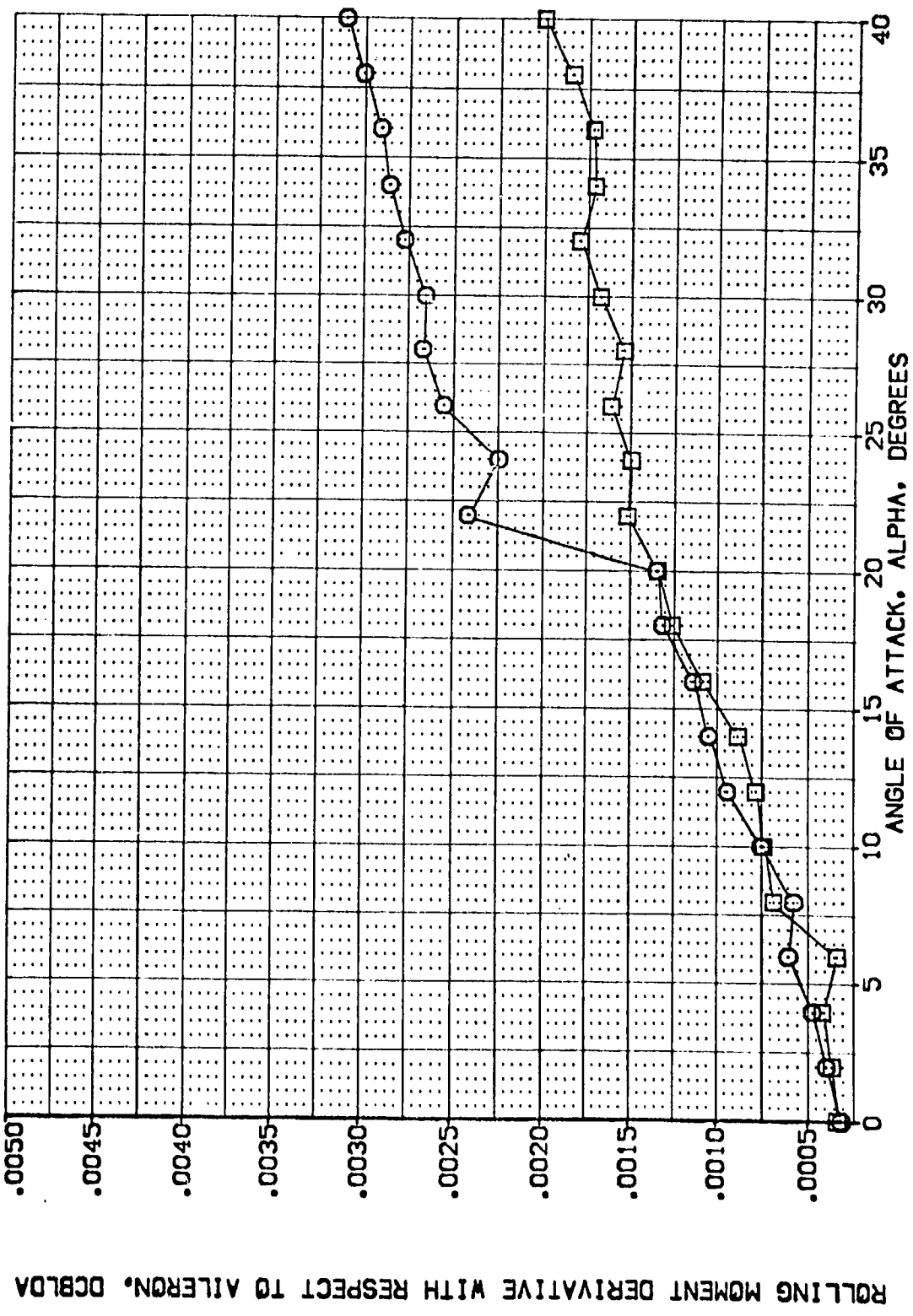
$$(CB)MACH = .90$$

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
{P520B9}	MSFC 581(0A49) ORB 34-0 (B0FH)(VE)(VR)
{P52105}	MSFC 581(0A49) ORB 34-0 (B0FH)(VE)(VR)

DATA SET SYMBOL: **CONF** (CONFIGURATION DESCRIPTION)
 {P22089} **B** {P22105} **B** MSFC 581(0A49) 008 34-0 (BCFH)(VE)(VR)
 MSFC 581(0A49) 008 34-0 (BCFH)(VE)(VR)

DELARN 3.730 ELEVTR 12.040 8DFLAP -11.700 SPDBRK 25.550
 3.730 12.040 16.300 25.550

REFERENCE INFORMATION
 SREF 2741.8000 90. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040



BODY FLAP - AILERON INTERACTION

CDMACH = 4.96

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992089)

SYMBOL
 ○ □ ◇ △ ▽

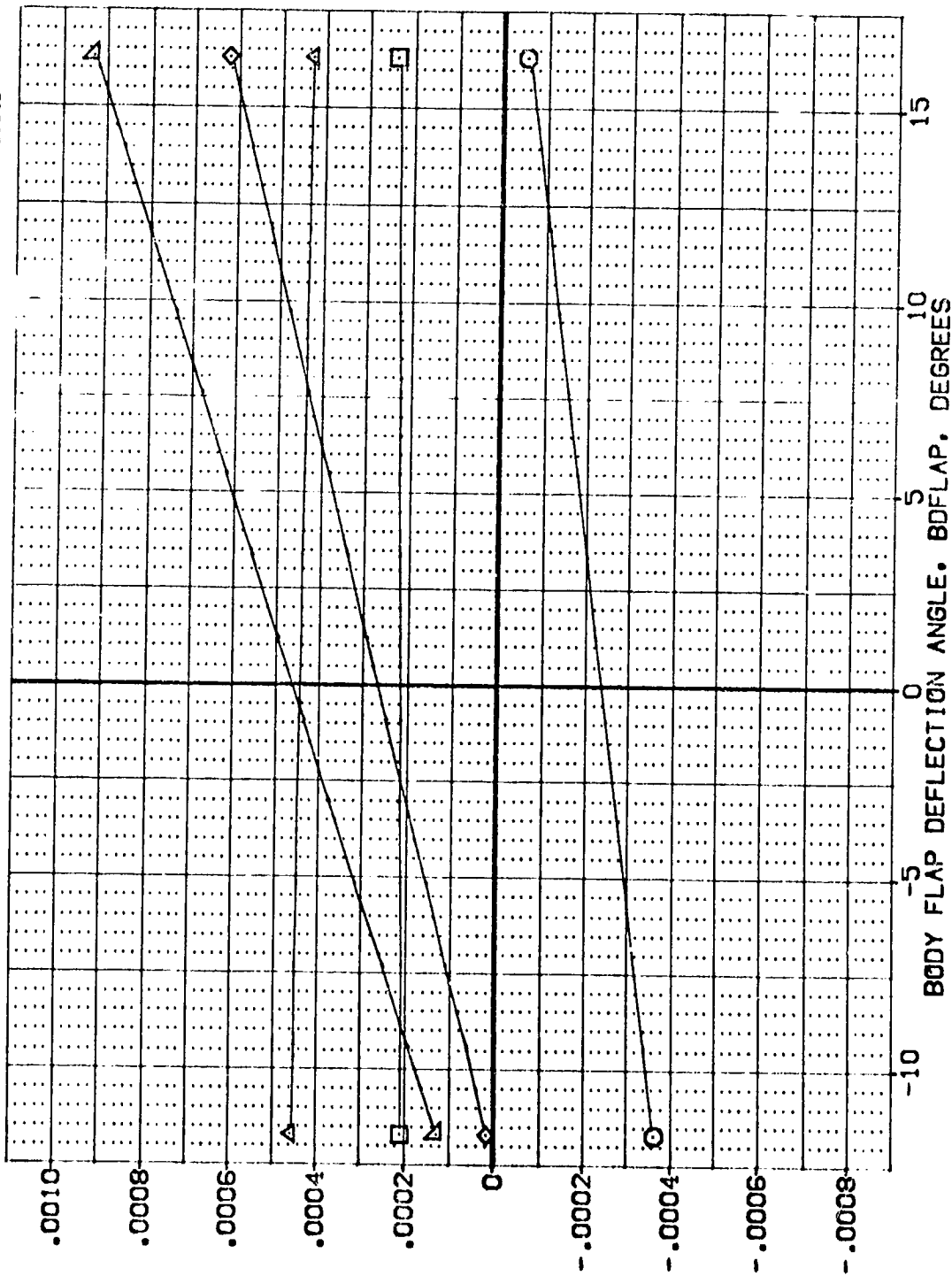
ALPHA
 .000
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 10.000
 15.000
 20.000

PARAMETRIC VALUES
 MACH 2.990
 DELARN 3.730
 BETA .000
 CONFIG 1.000

DATA SOURCE
 BOFLAP 12.040
 DATASET 25.550
 BOFLAP -11.700
 DATASET 992089
 BOFLAP .000
 DATASET 992089

REFERENCE INFORMATION
 SREF 2741.8000
 LREF 491.5000
 BREF 936.7000
 XPRP 1081.3000
 YPRP .0000
 ZPRP .0000
 SCALE .0040

SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA



BODY FLAP - AILERON INTERACTION

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992089)

SYMBOL
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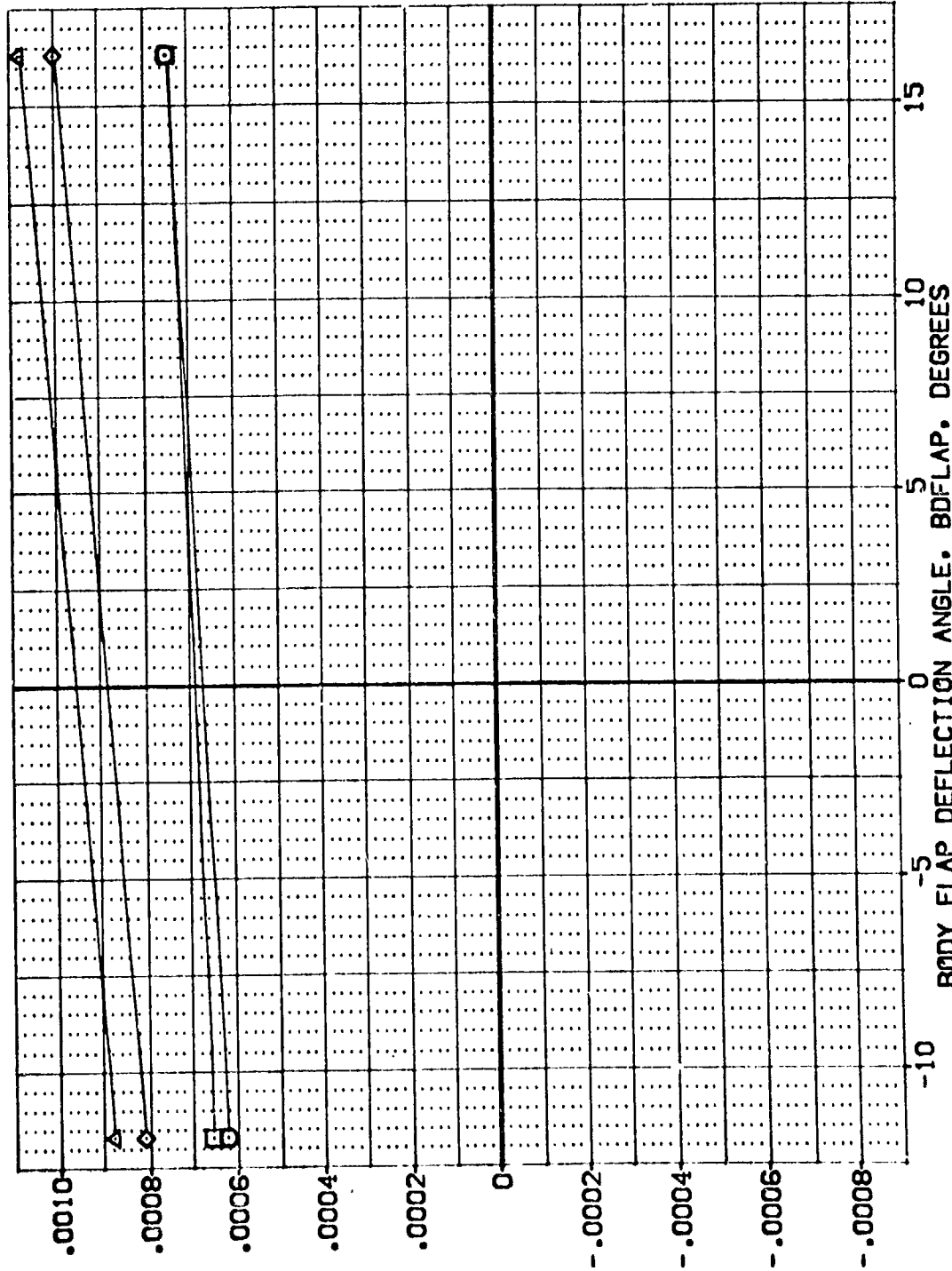
PARAMETRIC VALUES
 ALPHA 25.000
 MACH 2.850
 DELAYN 3.730
 BETA .000
 COV16 1.000

DATA SOURCE
 12.040 DATASET
 25.550 992089
 .000 RUDDER

DATA SOURCE
 12.040 DATASET
 25.550 992089
 .000 RUDDER

REFERENCE INFORMATION
 2741.8000
 481.6480
 936.7000
 1281.3900
 .0000
 .0000
 .0040

SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA



BODY FLAP - AILERON INTERACTION

(992089)

[illegible]

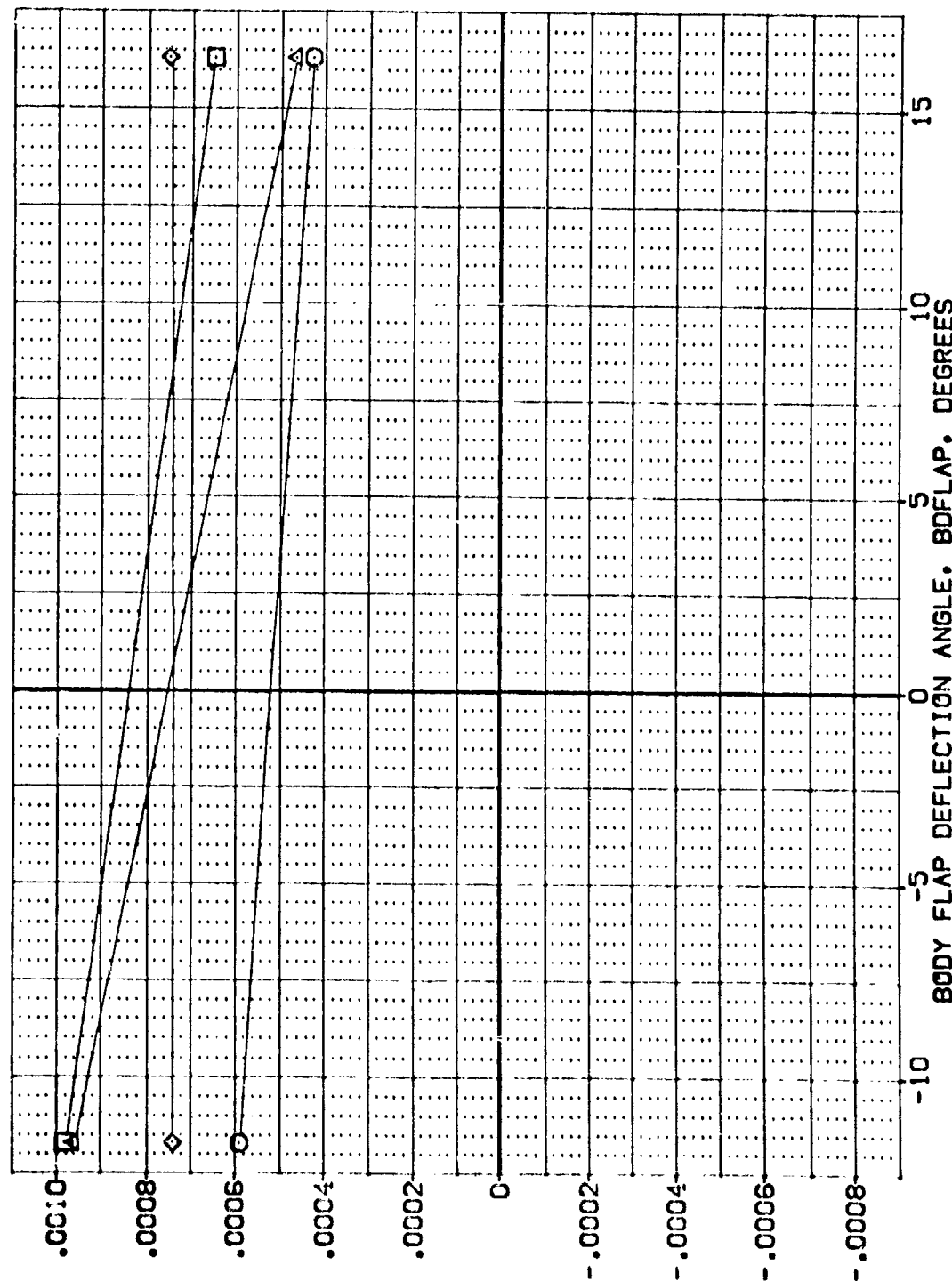
PARAMETRIC VALUES	
4.950	ELEVTR
3.730	SPOBRK
.000	RUDDER
1.000	

	DATA SOURCE
12.040	BDFLAP
25.550	-11.700
.000	

DATASET	BDFLAP	\$REF
892105	16.300	LREF
		BREF
		XREF
		YREF
		ZREF
		SCALE

REFERENCE INFORMATION	SQ. FT
2741.8000	IN.
481.6480	IN.
936.7000	IN.
1081.3900	IN.
.0000	IN.
.0000	IN.
.0040	IN.

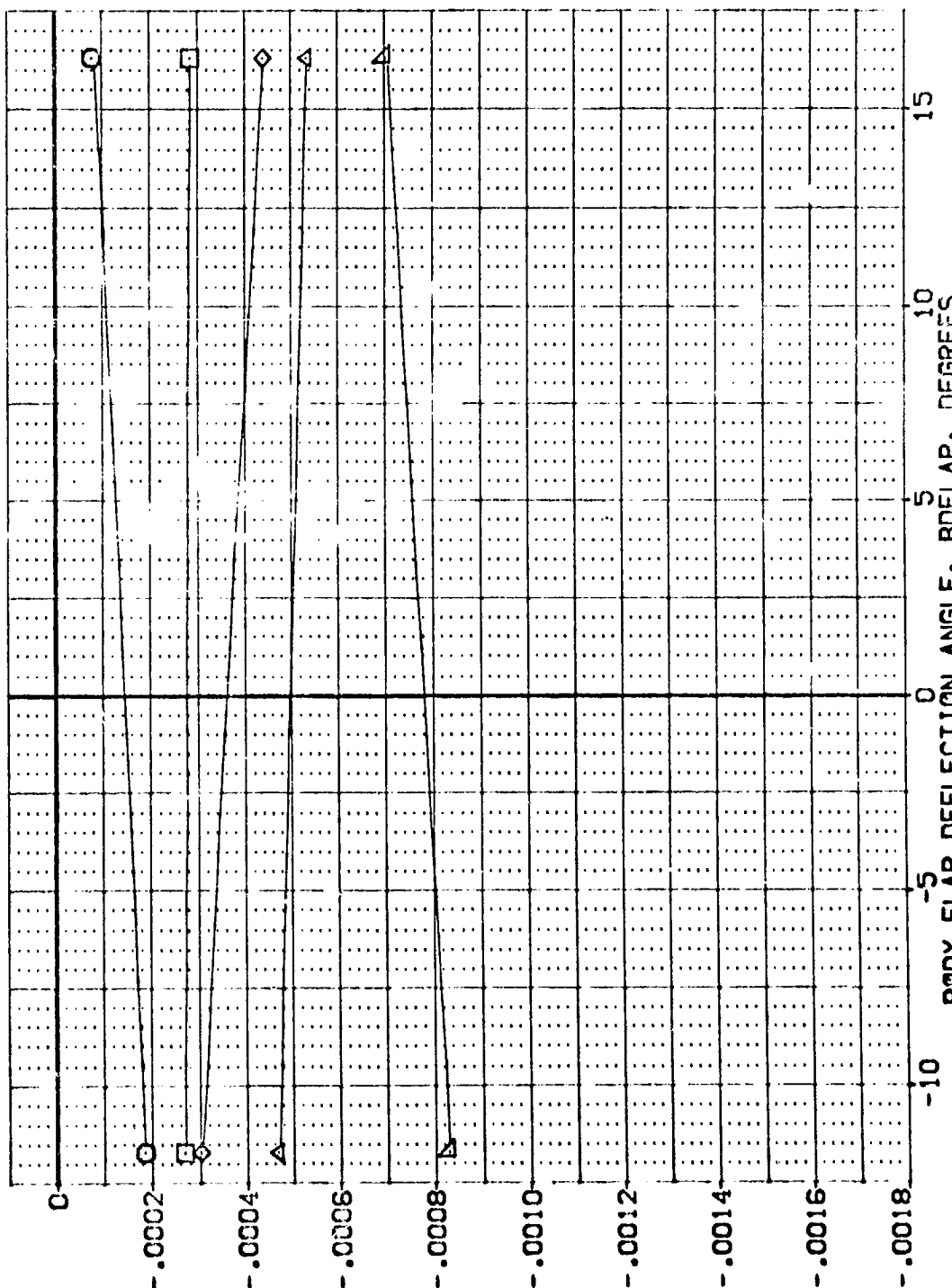
SIDE FORCE DERIVATIVE WITH RESPECT TO AILERON, DCY/DA



BODY FLAP - AILERON INTERACTION

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992089)

SYMBOL ALPHA .000 MACH 2.950 ELEVTR 12.040 DATASET 16.300 BOFLAP 992105 DATASET 16.300 BOFLAP 992105
 5.000 DELAYN 3.730 5700RK 25.550 992089 -11.700
 10.000 BETA .000 RUDDER .000
 15.000 CNFIG 1.000
 20.000

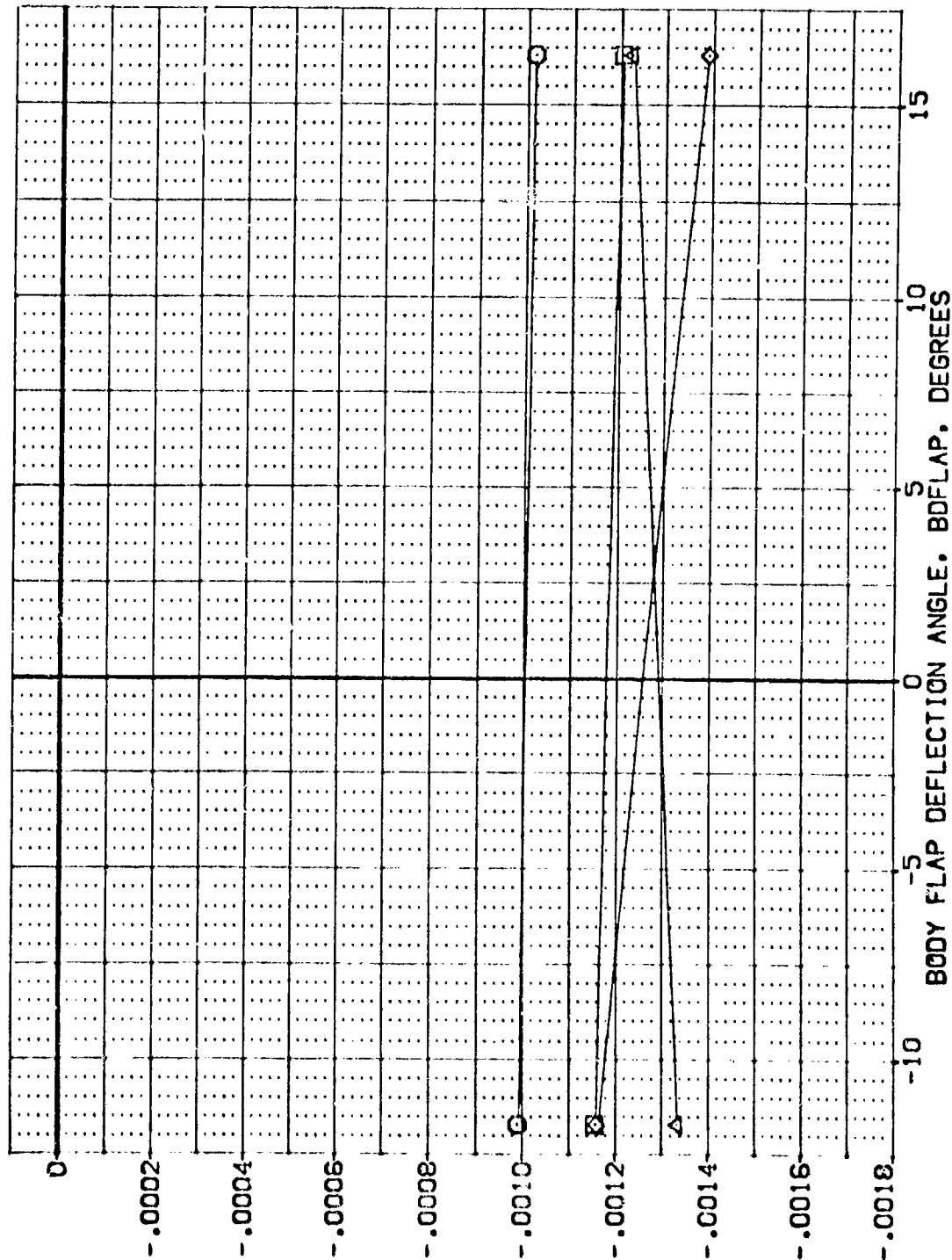


BODY FLAP - AILERON INTERACTION

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992089)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	BOFLAP	BOFLAP	REFERENCE INFORMATION
□	25.000	2.950	ELEVTR	12.040	DATASET	992105	SREF 2741.8000 SQ. FT
◇	30.000	3.730	SPDRK	25.550	992089	.000	LREF 481.6480 IN.
△	35.000	.000	RUDER	.000			BREF 936.7000 IN.
	40.000	1.000					YREF 1081.3500 IN.
							ZREF .0000 IN.
							SCALE .0040

YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYND



BODY FLAP - AILERON INTERACTION

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

(1992089)

SYMBOL
O □ ◇ △

ALPHA
.000
5.000
10.000
15.000
20.000

MACH
DELARN
BETA
CONF18

PARAMETRIC VALUES
4.950 ELEVTR
3.730 SPDRK
.000 RUDDER
1.000

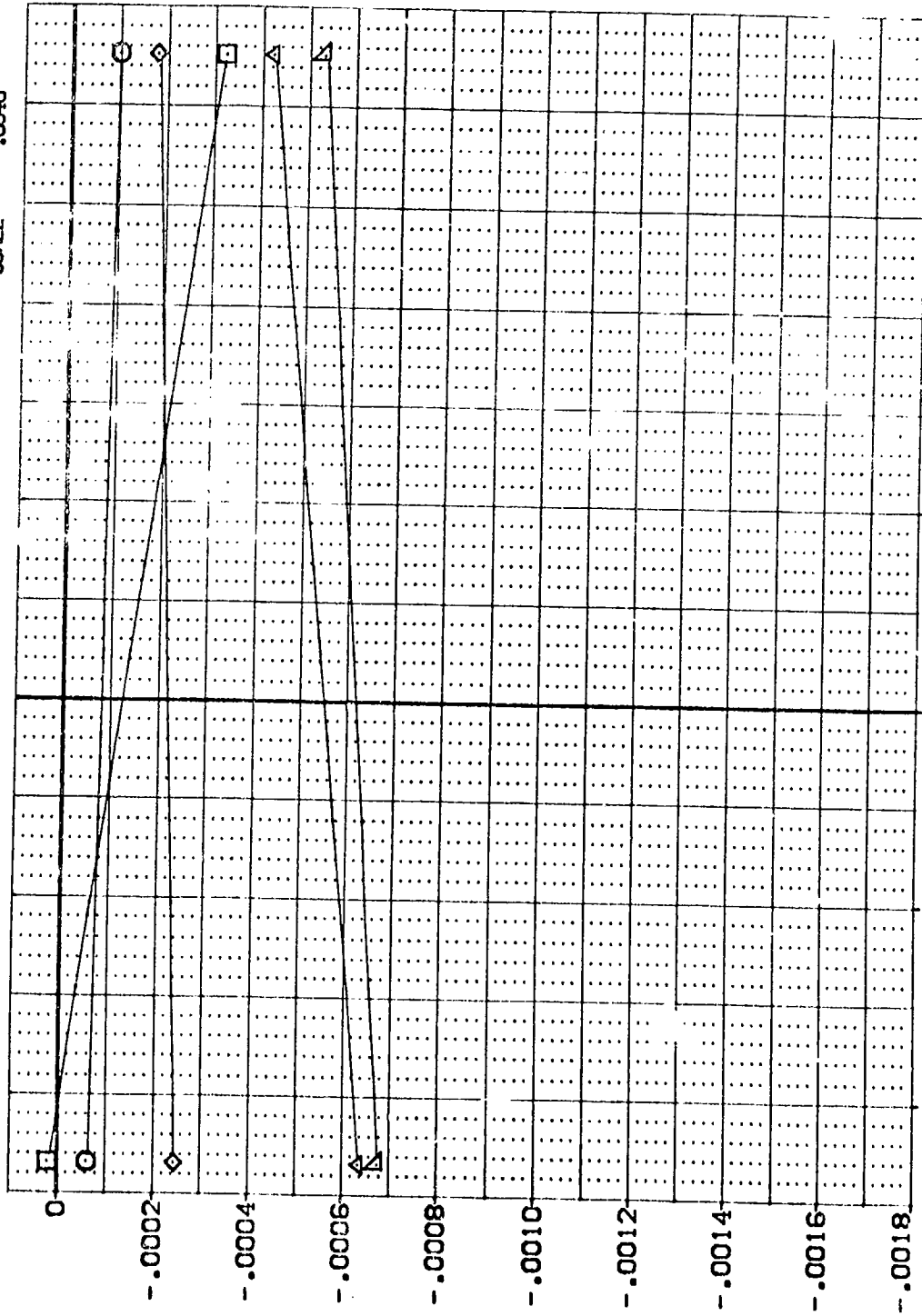
DATA SOURCE
12.040 DATASET
25.550 992089
.000

BOFLAP
-11.700

DATASET 8-FLAP
992105 5.300

REFERENCE INFORMATION
2741.9000 SREF
401.2480 LREF
935.7500 BREF
1081.2500 XMRP
.0000 YMRP
.0000 ZMRP
.0040 SCALE

50. FT
IN.
IN.
IN.
IN.



YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYND

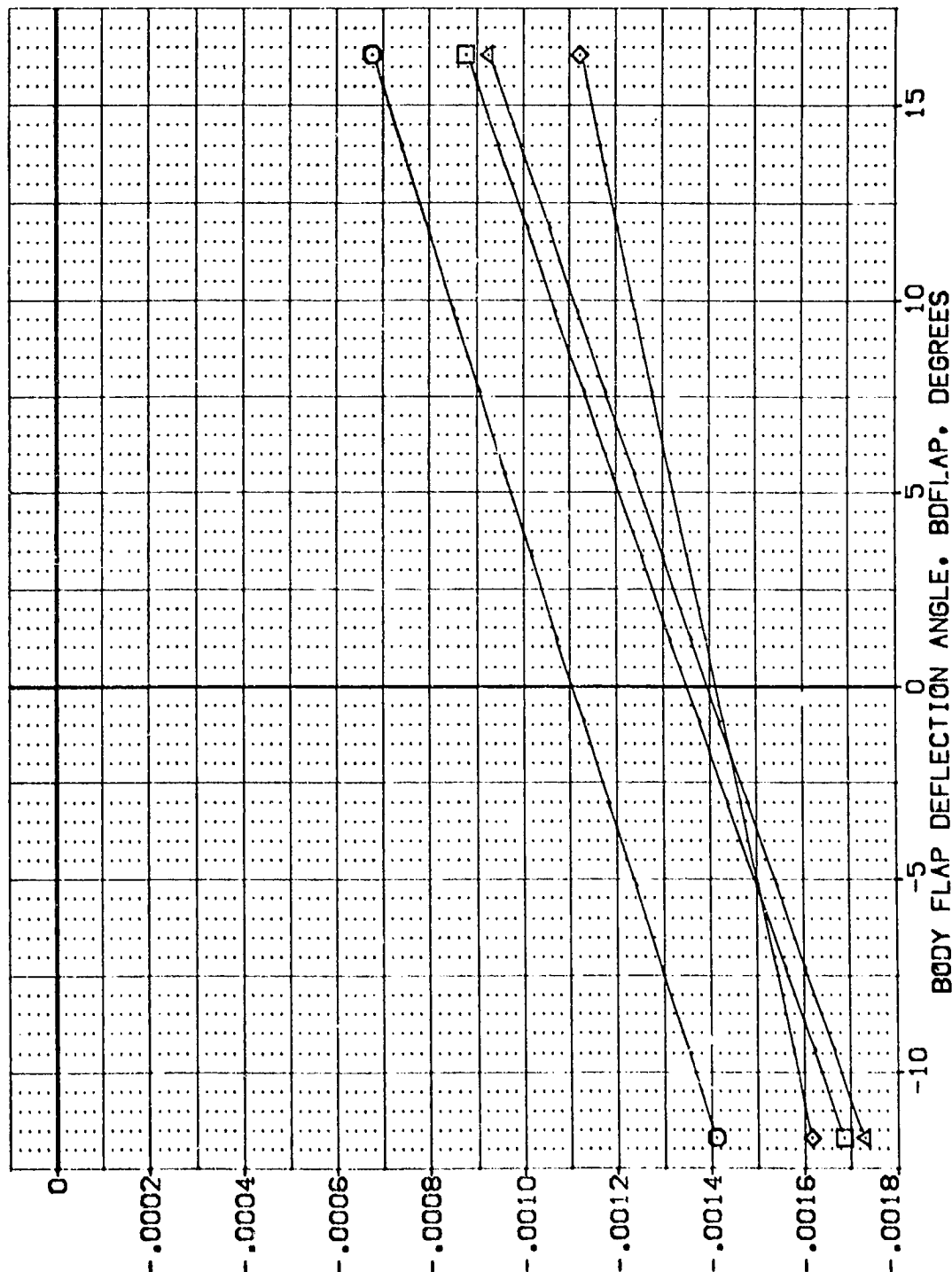
BODY FLAP DEFLECTION ANGLE, BDFLAP, DEGREES

BODY FLAP - AILERON INTERACTION

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992089)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	25.000	4.560	ELEVTR	12.040	DATASET	BOFLAP	SREF	2741.8000
□	30.000	3.730	SPDRK	25.550	992089	16.300	LREF	481.6480
◇	35.000	.000	RUDER	.000			BREF	936.7000
△	40.000	1.000					XREF	1081.3500
							YREF	.0000
							ZREF	.0000
							SCALE	.0040

YAWING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCYDA



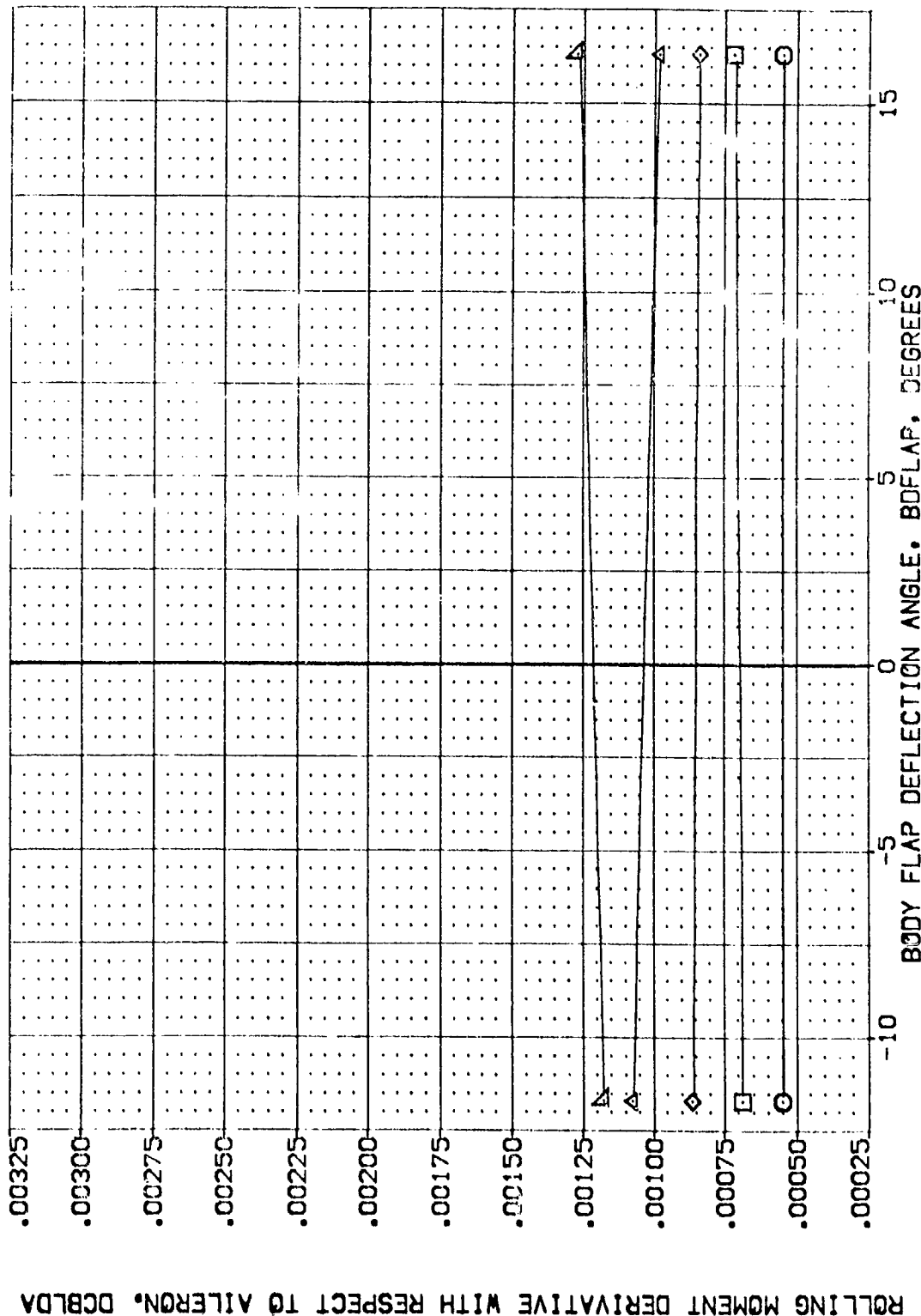
BODY FLAP - AILERON INTERACTION

SYMBOL ALPHA MACH DELARN BETA CO-F16
 0 .000
 1 5.000
 2 10.000
 3 15.000
 4 20.000

PARAMETRIC VALUES
 2.950 ELEVTR
 3.730 SPOBRK
 .000 RUDDER
 1.000

DATA SOURCE
 BOFLAP -11.700
 DATASET 992089
 .000

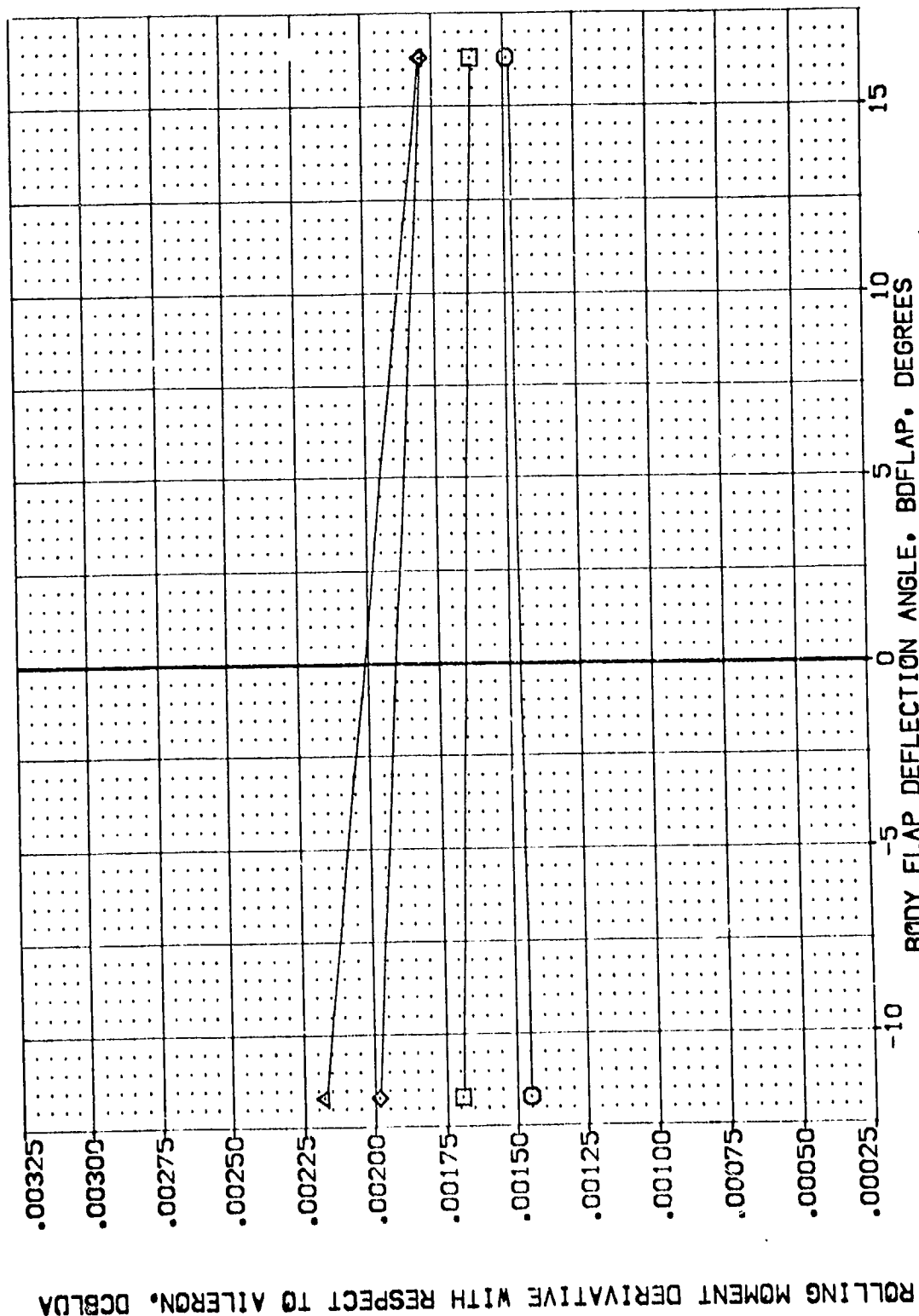
REFERENCE INFORMATION
 SREF 2741.8000
 LREF 16.300
 BREF 108.0000
 YARP .0000
 ZARP .0000
 SCALE .0040



BODY FLAP - AILERON INTERACTION

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992089)

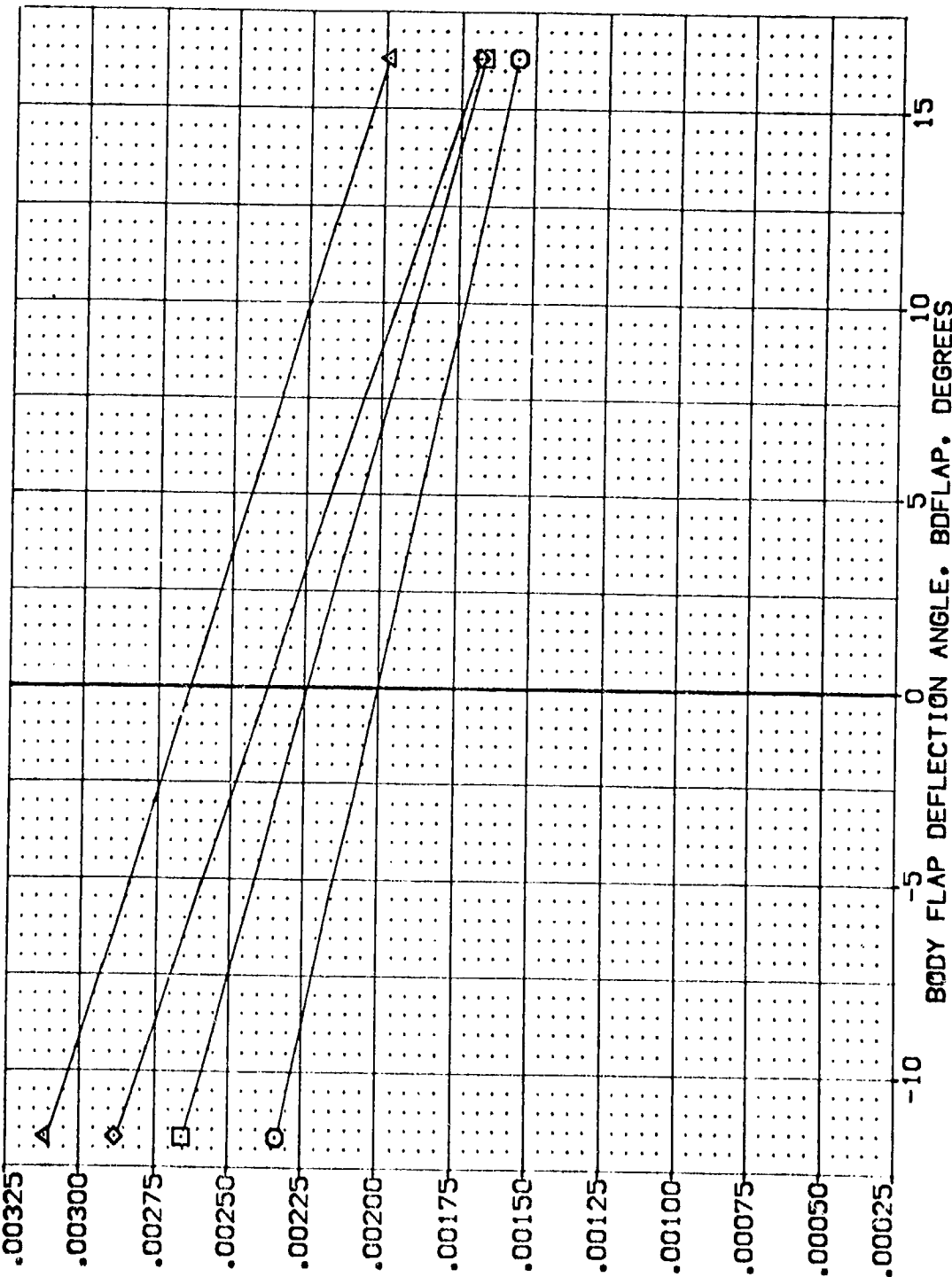
SYMBOL	ALPHA	MACH	DELTA	BETA	CONFID	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	25.000	2.590	ELEVTR	12.040	DATASET	BOFLAP	SRF	2741.9000
□	30.000	3.730	SPDRK	25.550	992089	-11.700	REF	481.6480
◇	35.000	.000	RUDDER	.000			REF	536.7000
△	40.000	1.000					REF	1081.3500
							YMRP	.0000
							ZMRP	.0000
							SCALE	.0040



BODY FLAP - AILERON INTERACTION

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (992089)

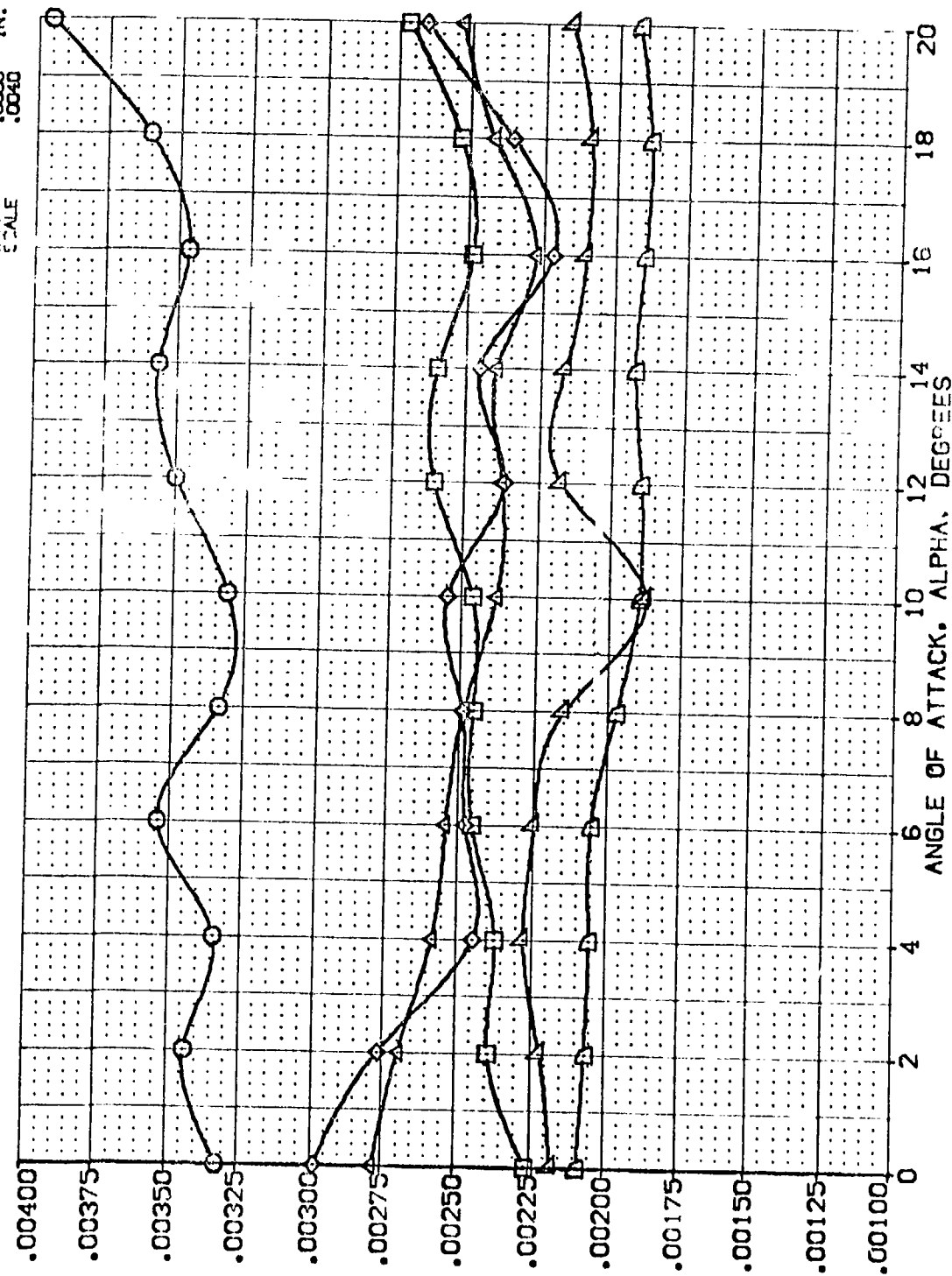
SYMBOL		ALPHA		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	◇	25.000	MACH	4.950	ELEVTR	12.040	DATASET	BDFLAP	SREF
□	◇	30.000	DELARN	3.730	SPDRK	25.550	992089	16.300	2741.8000
◇	◇	35.000	BETA	.000	RUDDER	.000			481.6460
△	◇	40.000	CONFIG	1.000					536.7000
									1081.3500
									.0000
									.0000
									.0040
									SCALE



ROLLING MOMENT DERIVATIVE WITH RESPECT TO AILERON, DCBLDA

BODY FLAP - AILERON INTERACTION

REFERENCE INFORMATION		
SIZE	2741.8000	93. FT
REF	491.6480	IN.
REF	536.7000	IN.
REF	1081.3500	IN.
REF	.0000	IN.
SCALE	.0040	



LINEAR RANGE OF RUDDER

$$\{V\}MACH = .60$$

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[382049] MSFC 531(0A49) GRB 34-0 (BCFM)(VE)(VR)

[382052] MSFC 531(0A49) GRB 34-0 (BCFM)(VE)(VR)

[382053] DATA NOT AVAILABLE

[382054] MSFC 531(0A49) GRB 34-0 (BCFM)(VE)(VR)

[382055] MSFC 531(0A49) GRB 34-0 (BCFM)(VE)(VR)

SPOBRK DELRUD BOFLAP

.000 -10.000 -11.700

50.000 -20.000 -11.700

50.000 -10.000 -11.700

50.000 -20.000 -11.700

50.000 -20.000 -11.700

REFERENCE INFORMATION

SREF 2741.800C 50. F

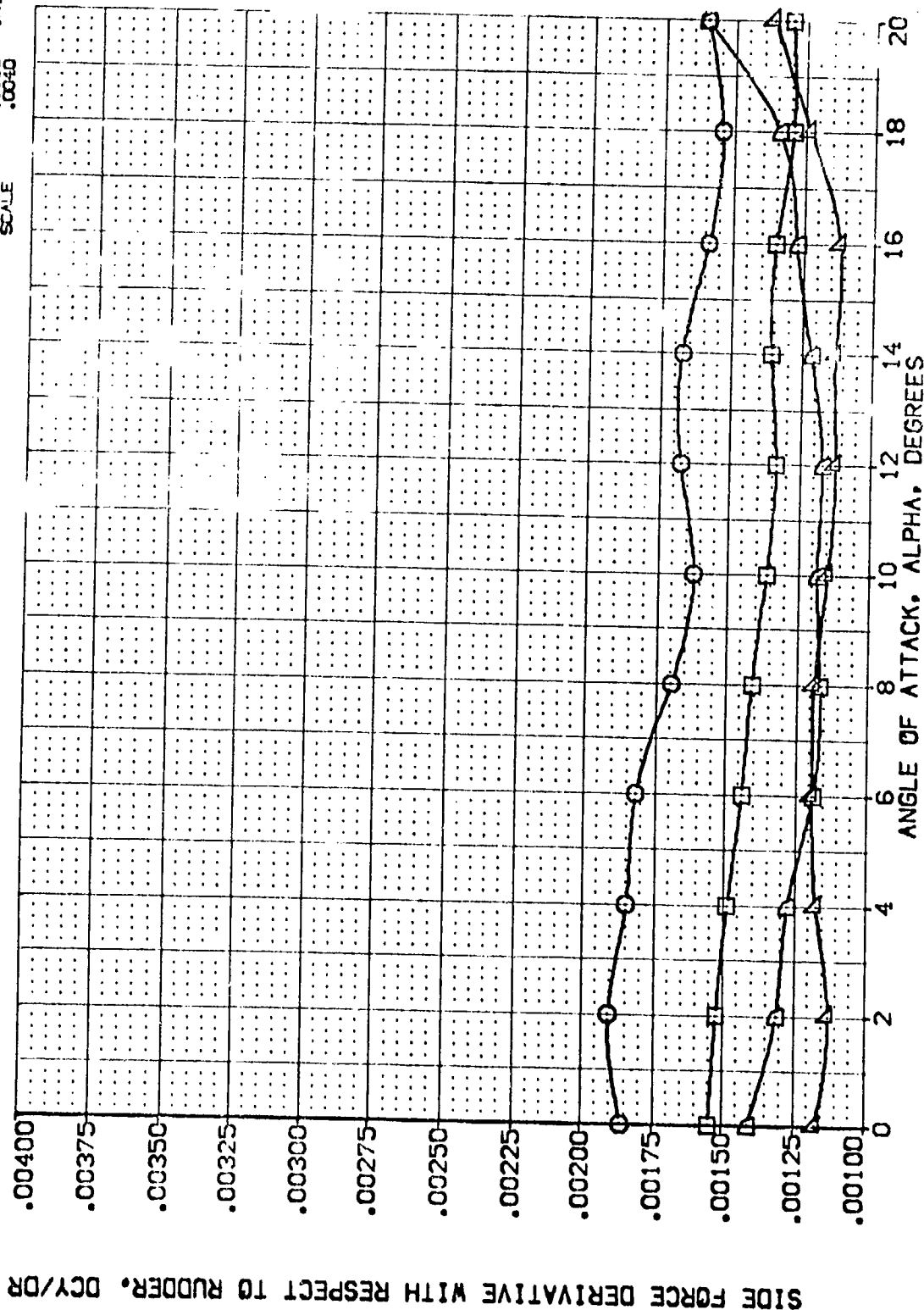
LREF 481.540C IN.

BREF 546.700C IN.

YMRP 1781.300C IN.

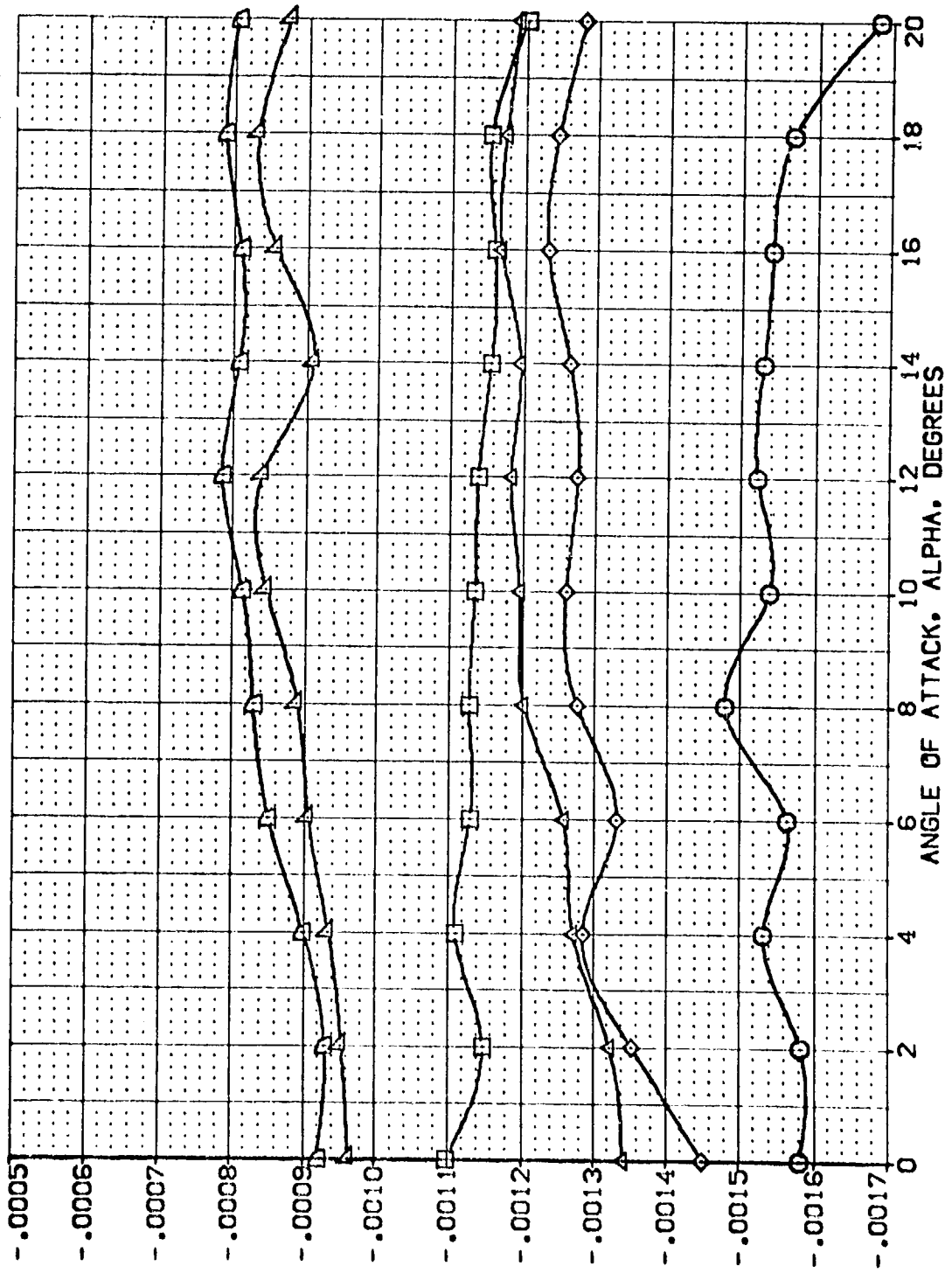
ZMRP .0000 IN.

SCALE .0050



DATA SET SYMBOL CONFIGURATION DESCRIPTION SPDRK DELRJD BDFLAP REFERENCE INFORMATION

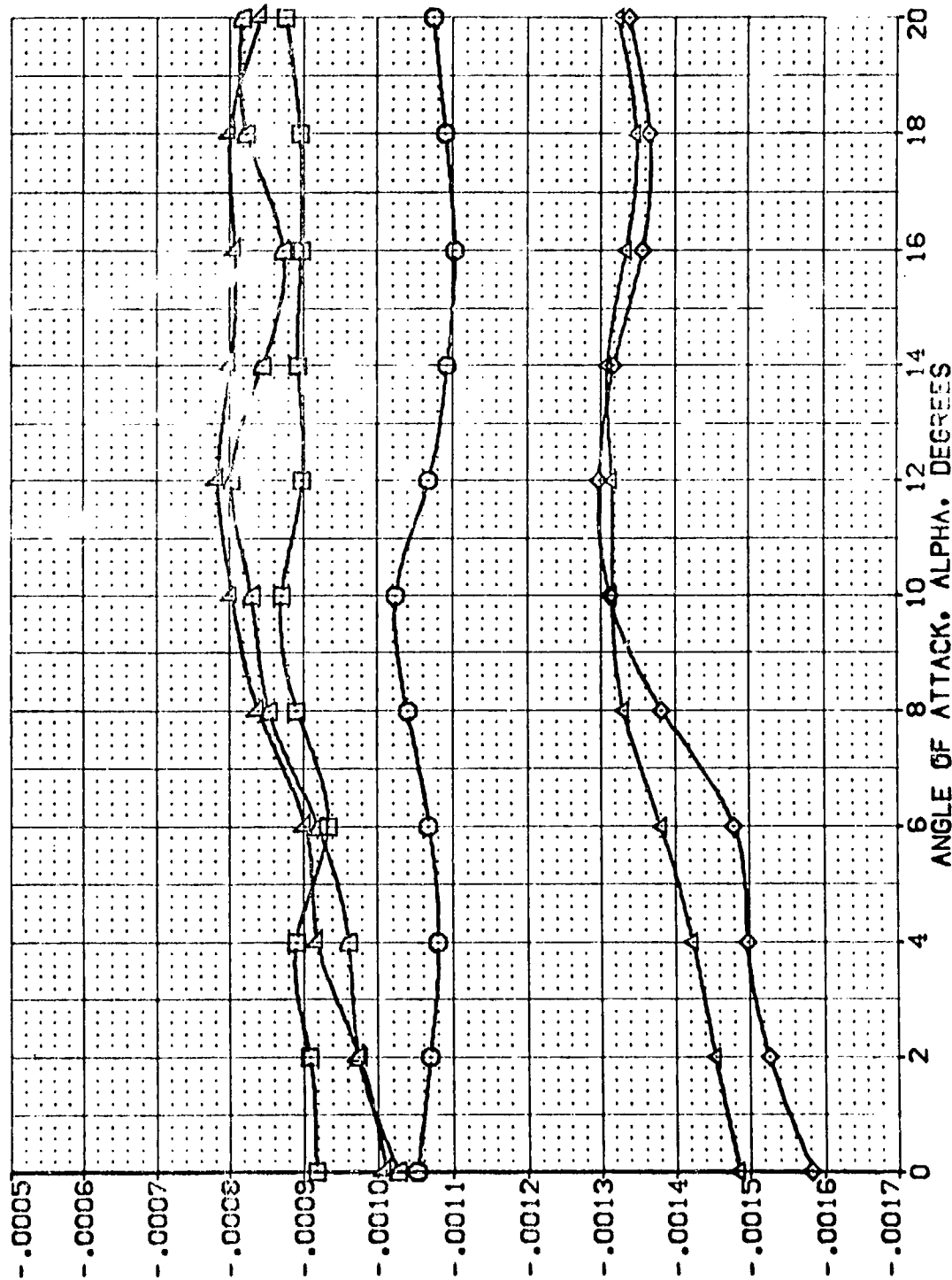
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SPDRK	DELRJD	BDFLAP	REFERENCE INFORMATION
122049	157C 531(0A49) 033 34-0 [BOTH](VE)(VR)	.000	-10.000	-11.700	SREF 2741.8000 SQ. FT
122050	157C 531(0A49) 033 34-0 [BOTH](VE)(VR)	.000	-20.000	-11.700	LREF 481.6480 IN.
122051	157C 531(0A49) 033 34-0 [BOTH](VE)(VR)	.000	-20.000	-11.700	BREF 936.7000 IN.
122052	157C 531(0A49) 033 34-0 [BOTH](VE)(VR)	.000	-20.000	-11.700	XMRP 1081.3000 IN.
122053	157C 531(0A49) 033 34-0 [BOTH](VE)(VR)	.000	-20.000	-11.700	YMRP .0000 IN.
122054	157C 531(0A49) 033 34-0 [BOTH](VE)(VR)	.000	-20.000	-11.700	ZMRP .0000 IN.
122055	157C 531(0A49) 033 34-0 [BOTH](VE)(VR)	.000	-20.000	-11.700	SCALE .0040



LINEAR RANGE OF RUDDER


(A)MACH = .60

YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR

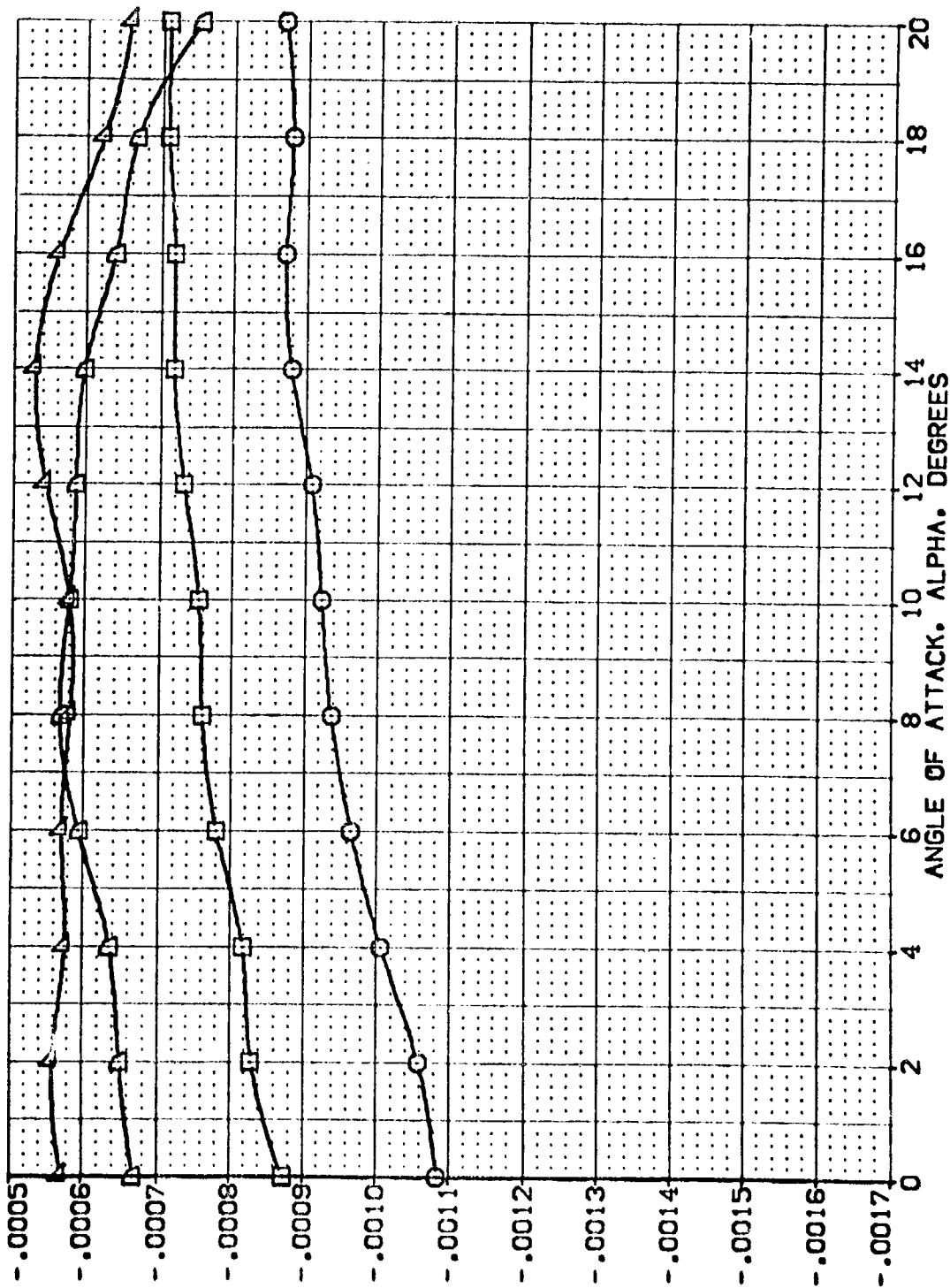


LINEAR RANGE OF RUDDER

$$C(B)MACH = .90$$

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION: MSFC 501(0A49) DB 34-0 (BOTH)(VE)(VR) MSFC 501(0A49) DB 34-0 (BOTH)(VE)(VR) DATA NOT AVAILABLE DATA NOT AVAILABLE MSFC 501(0A49) DB 34-0 (BOTH)(VE)(VR) MSFC 501(0A49) DB 34-0 (BOTH)(VE)(VR)

SPDRK DELRD BDFAP REFERENCE INFORMATION
 .000 -10.000 -11.700 SREF 2741.8000 SQ. FT
 .000 -20.000 -11.700 LREF 481.6480 IN.
 55.000 -10.000 -11.700 SREF 936.7000 IN.
 55.000 -20.000 -11.700 XPRP 1081.3500 IN.
 55.000 -20.000 -11.700 YPRP .0000 IN.
 55.000 -20.000 -11.700 ZPRP .0000 IN.
 SCALE .0040

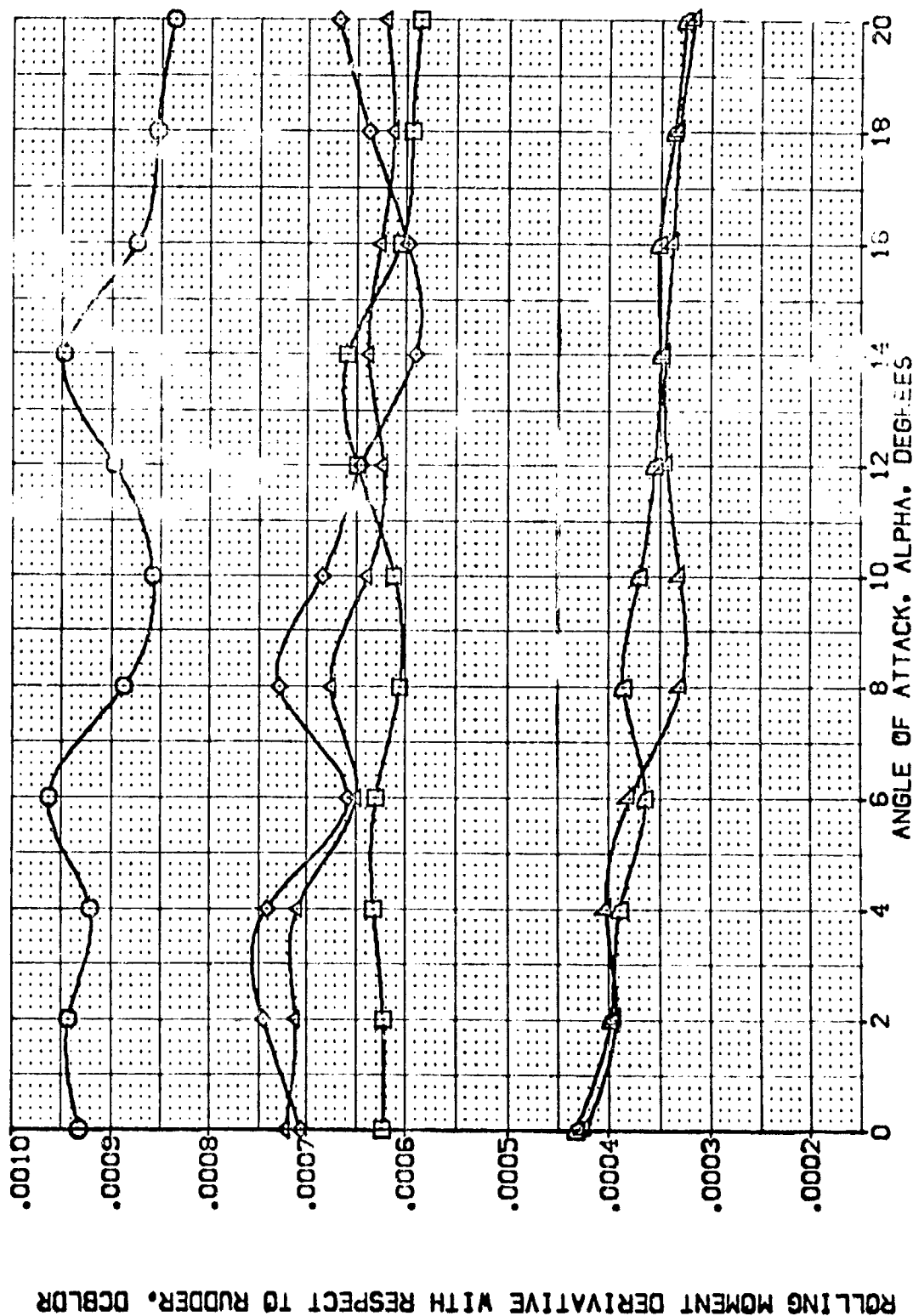


YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR

LINEAR RANGE OF RUDDER

CCJMACH = 1.20

REFERENCE INFORMATION	
REF	2741.8003 SQ. FT
REF	481.649C IN.
REF	635.7000 IN.
REF	1001.7500 IN.
REF	.0000 IN.
REF	.0000 IN.
REF	.0040 IN.
SCALE	



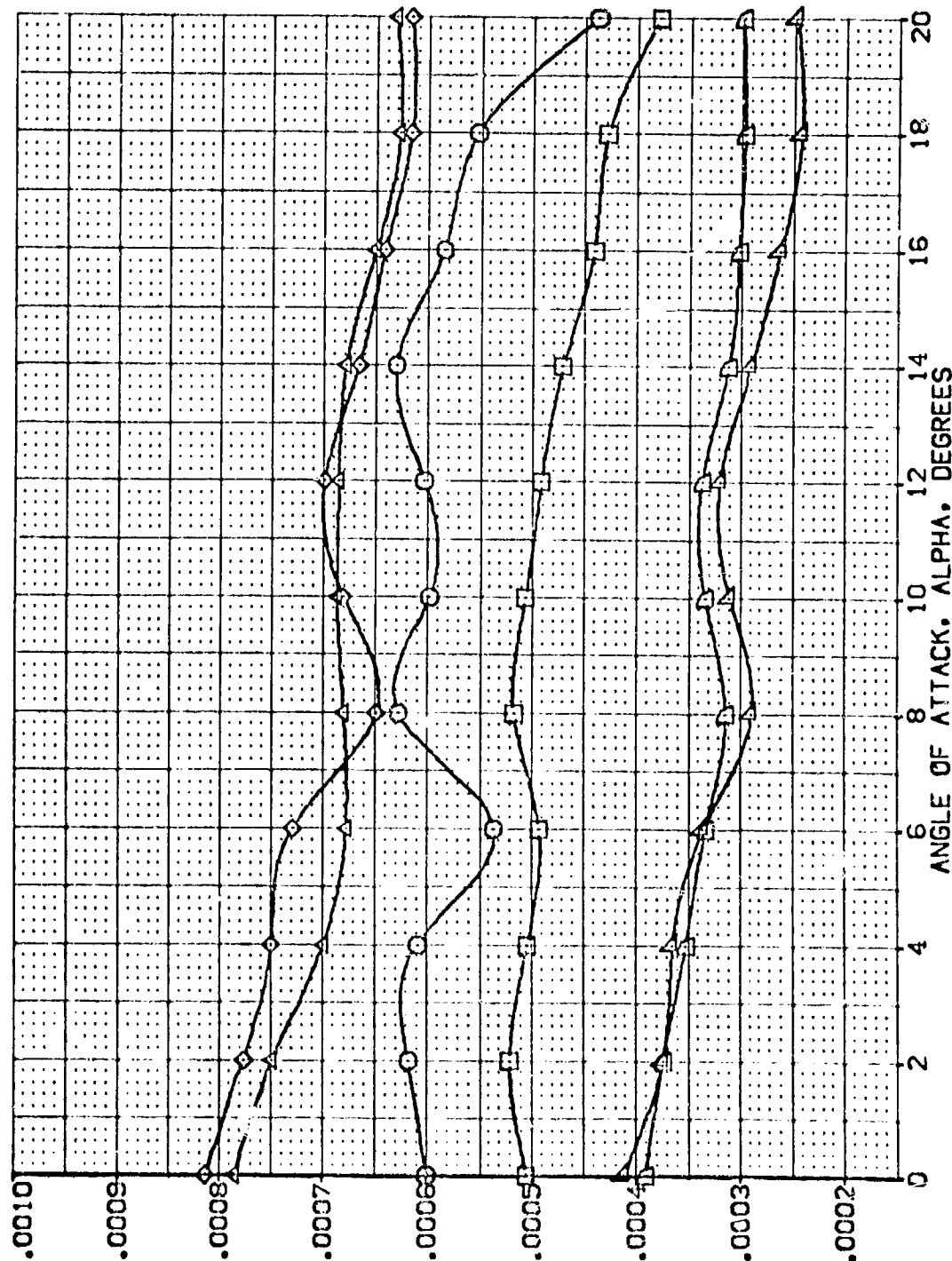
LINEAR RANGE OF RUDDER

(A)MACH = .60

REFERENCE INFORMATION
 SREF 2741.8000 90. FT
 LREF 481.6480 IN.
 BREF 936.7000 IN.
 XMRP 1081.3900 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0040

SPEEDX DELRD BOFLAP
 .000 -10.000 -11.700
 .000 -20.000 -11.700
 95.000 -10.000 -11.700
 95.000 -20.000 -11.700
 95.000 -10.000 -11.700
 95.000 -20.000 -11.700

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [322049] [322049] 003 34-0 [BDM]VE[VR]
 [322050] [322050] 003 34-0 [BDM]VE[VR]
 [322051] [322051] 003 34-0 [BDM]VE[VR]
 [322052] [322052] 003 34-0 [BDM]VE[VR]
 [322053] [322053] 003 34-0 [BDM]VE[VR]
 [322054] [322054] 003 34-0 [BDM]VE[VR]



ROLLING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCBLDR

LINEAR RANGE OF RUDDER

(B)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

352049 MSFC 501(CA49) DB 34-0 (BOFM)(VE)(VR)

352050 MSFC 501(CA49) DB 34-0 (BOFM)(VE)(VR)

352051 DATA NOT AVAILABLE

352052 DATA NOT AVAILABLE

352053 MSFC 501(CA49) DB 34-0 (BOFM)(VE)(VR)

352054 MSFC 501(CA49) DB 34-0 (BOFM)(VE)(VR)

SPDRK DELNO BOFLAP

0.000 -10.000 -11.700

55.000 -10.000 -11.700

55.000 -10.000 -11.700

55.000 -10.000 -11.700

55.000 -10.000 -11.700

REFERENCE INFORMATION

SREF 2741.8000 50. FT

UREF 481.6490 IN.

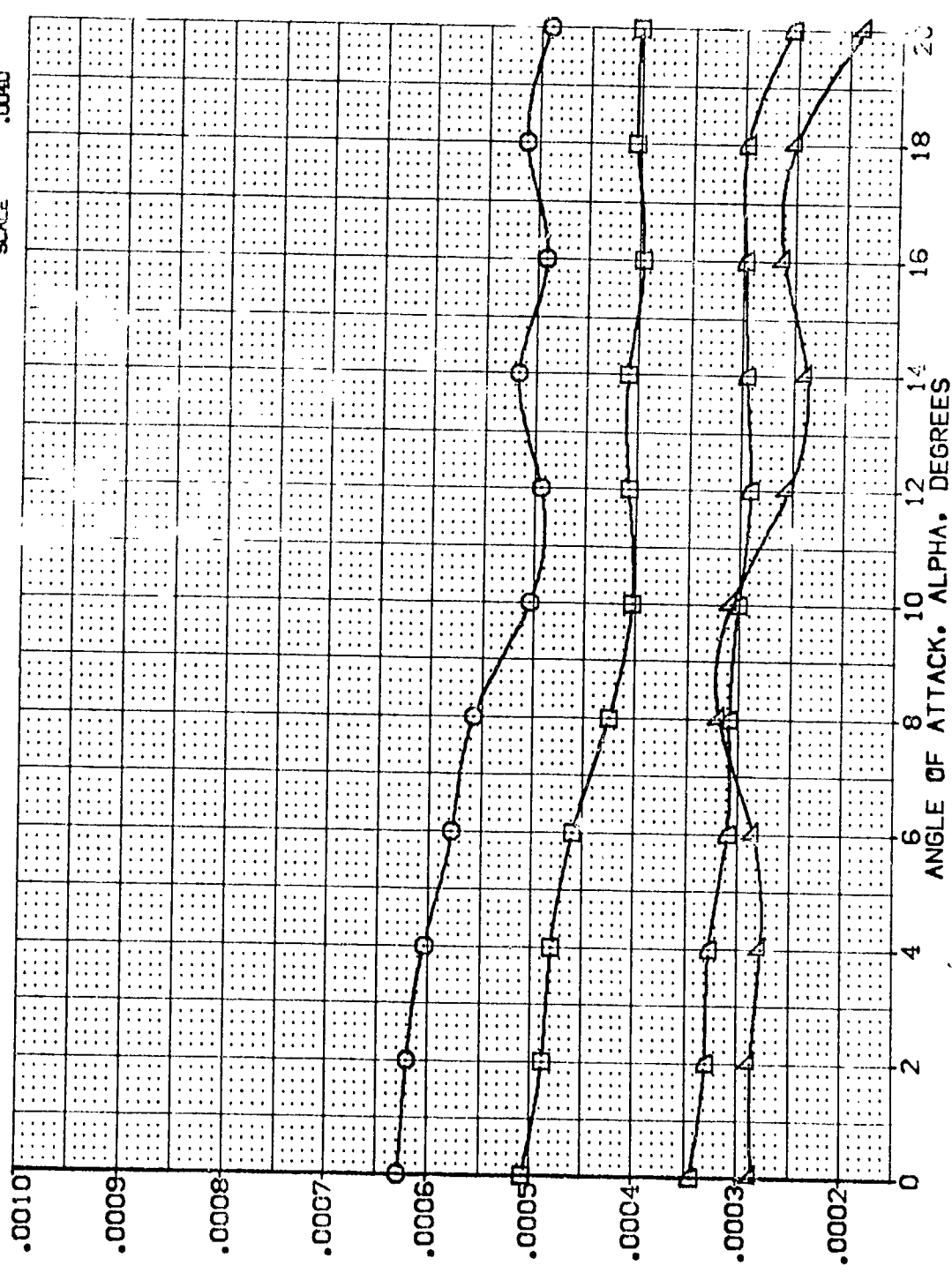
BREF 936.7000 IN.

XREF 1081.3000 IN.

YREF 0.0000 IN.

ZREF 0.0000 IN.

SCALE .0040



ROLLING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, OCBLDR

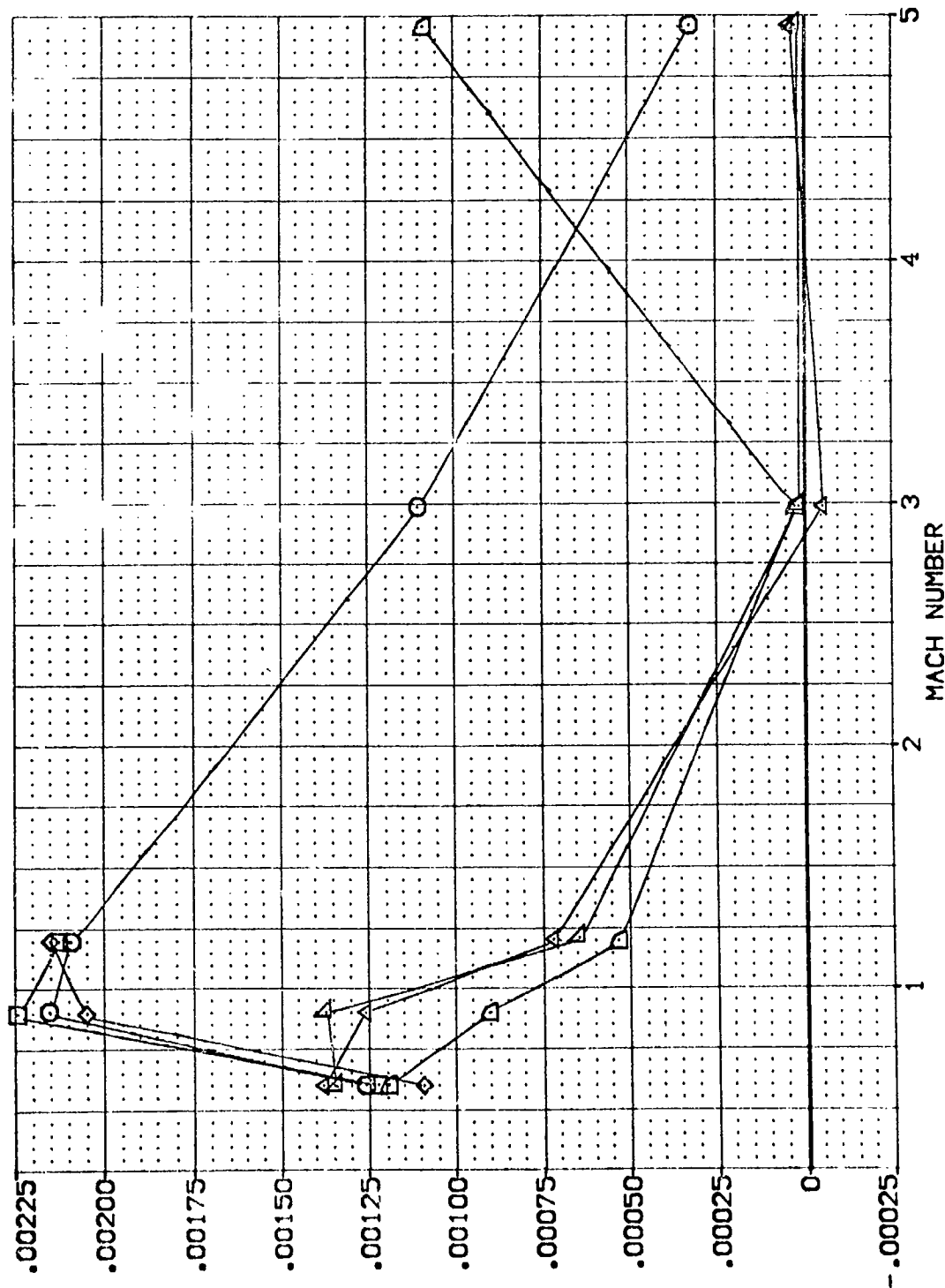
LINEAR RANGE OF RUDDER

(CJ)MACH = 1.20

YAWING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CYMBET, PER DEGREE

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDDER	SFCBKK	B	A	REFERENCE INFORMATION
(R2020)	HSFC 531 (DA49) 033 34-0 (BDTH) (VE) (VR)	.000	.000	25.550	-11.700	.700	SREF 2741.0000 62. FT
(R2025)	HSFC 531 (DA49) 033 34-0 (BDTH) (VE) (VR)	.000	-10.000	25.550	-11.700	.700	LREF 481.6480
(R2041)	HSFC 531 (DA49) 033 34-0 (BDTH) (VE) (VR)	.000	-20.000	25.550	-11.700	.700	BREF 935.7000
(R2021)	HSFC 531 (DA49) 033 34-0 (BDTH) (VE) (VR)	10.000	-10.000	25.550	-11.700	.700	XREF 1031.0000
(R2027)	HSFC 531 (DA49) 033 34-0 (BDTH) (VE) (VR)	10.000	-10.000	25.550	-11.700	.700	YREF .0000
(R2042)	HSFC 531 (DA49) 033 34-0 (BDTH) (VE) (VR)	10.000	-10.000	25.550	-11.700	.700	ZREF .0000
							SCALE .0040

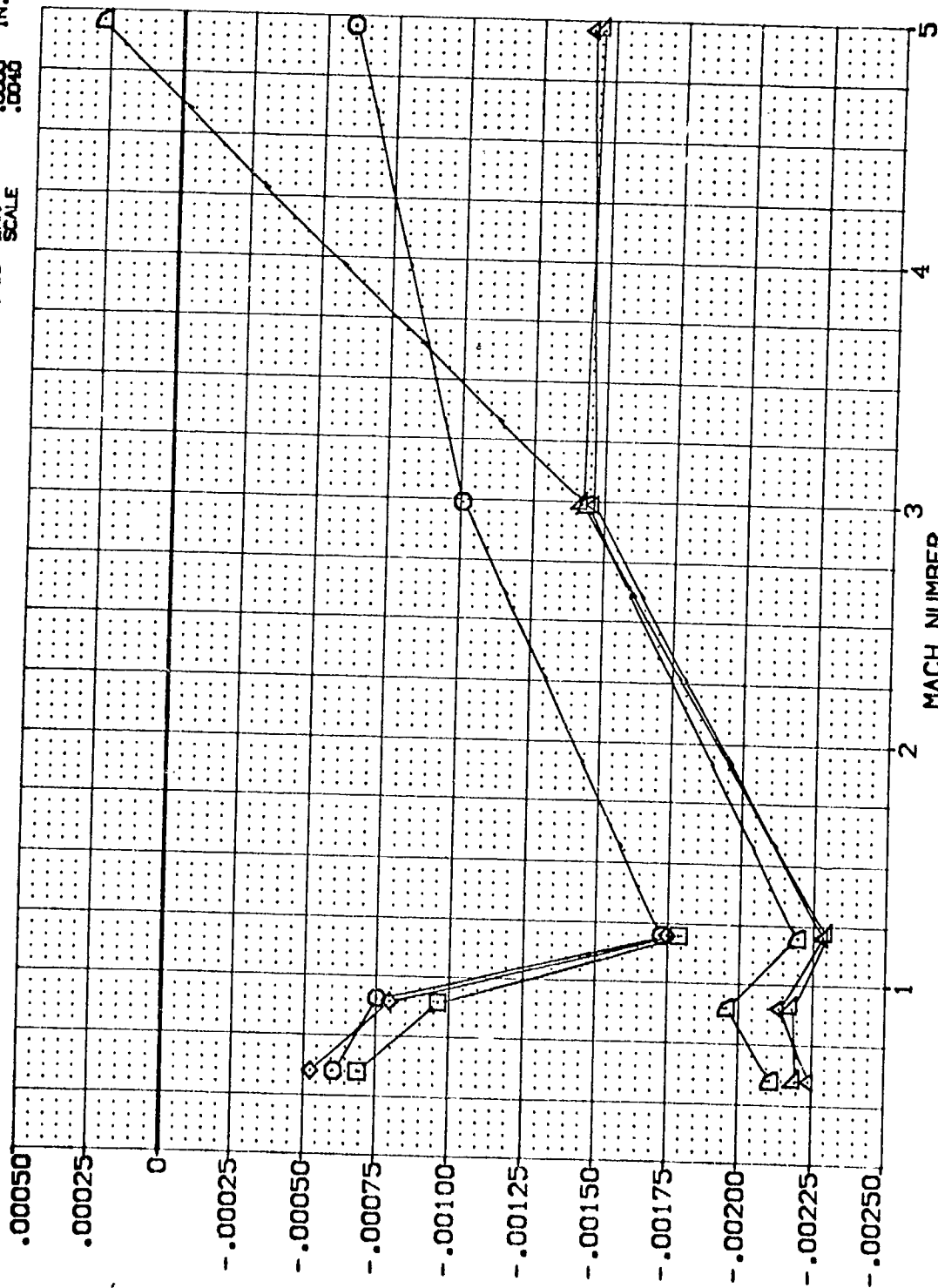


EFFECT OF RUDDER ON LATERAL-DIRECTIONAL CHARACTERISTICS

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDDER	SPDRBK	BDFLAP	REFERENCE INFORMATION
RS2020	HSFC S31(CA49) DB 34-0 (BCFM) (VE)(VR)	.000	.000	25.550	-.700	SRF 2741.8000
RS2021	HSFC S31(CA49) DB 34-0 (BCFM) (VE)(VR)	.000	-10.000	25.550	-.700	LREF 481.6480
RS2022	HSFC S31(CA49) DB 34-0 (BCFM) (VE)(VR)	.000	-20.000	25.550	-.700	BRF 936.7000
RS2023	HSFC S31(CA49) DB 34-0 (BCFM) (VE)(VR)	10.000	.000	25.550	-.700	XMRP 1081.3900
RS2024	HSFC S31(CA49) DB 34-0 (BCFM) (VE)(VR)	10.000	-10.000	25.550	-.700	YMRP .0000
RS2025	HSFC S31(CA49) DB 34-0 (BCFM) (VE)(VR)	10.000	-20.000	25.550	-.700	ZMRP .0040

ROLLING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CBLBET, PER DEGREE

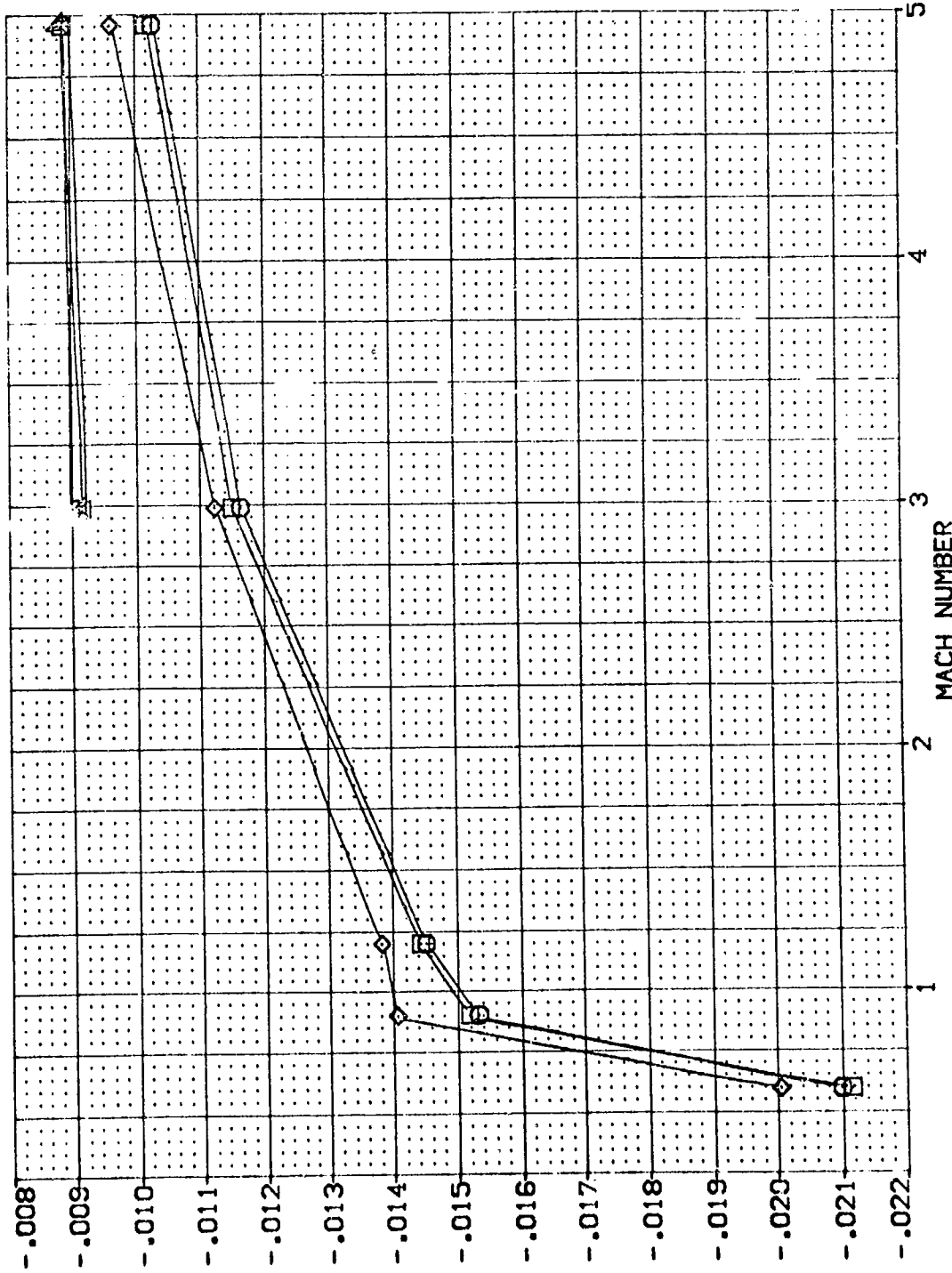


EFFECT OF RUDDER ON LATERAL-DIRECTIONAL CHARACTERISTICS

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDDER	SPDBRK	BOFLAP	REFERENCE INFORMATION
RS2022	MSFC 581(0A49) DB 34-0 (BCH) (VE) (VR)	20.000	0.000	25.550	-1.700	SREF 2741 8000 SQ. FT
RS2023	MSFC 581(0A49) DB 34-0 (BCH) (VE) (VR)	20.000	-10.000	25.550	-1.700	LREF 481 6450 IN.
RS2043	MSFC 581(0A49) DB 34-0 (BCH) (VE) (VR)	20.000	-20.000	25.550	-1.700	BREF 536 7000 IN.
RS2023	MSFC 581(0A49) DB 34-0 (BCH) (VE) (VR)	30.000	0.000	25.550	-1.700	XMRP 1081 3900 IN.
RS2023	MSFC 581(0A49) DB 34-0 (BCH) (VE) (VR)	30.000	-10.000	25.550	-1.700	YMRP 0.0000 IN.
RS2044	MSFC 581(0A49) DB 34-0 (BCH) (VE) (VR)	30.000	-20.000	25.550	-1.700	ZMRP 0.0040 IN.

SIDE FORCE COEFFICIENT DERIVATIVE WITH BETA, CYBETA, PER DEGREE

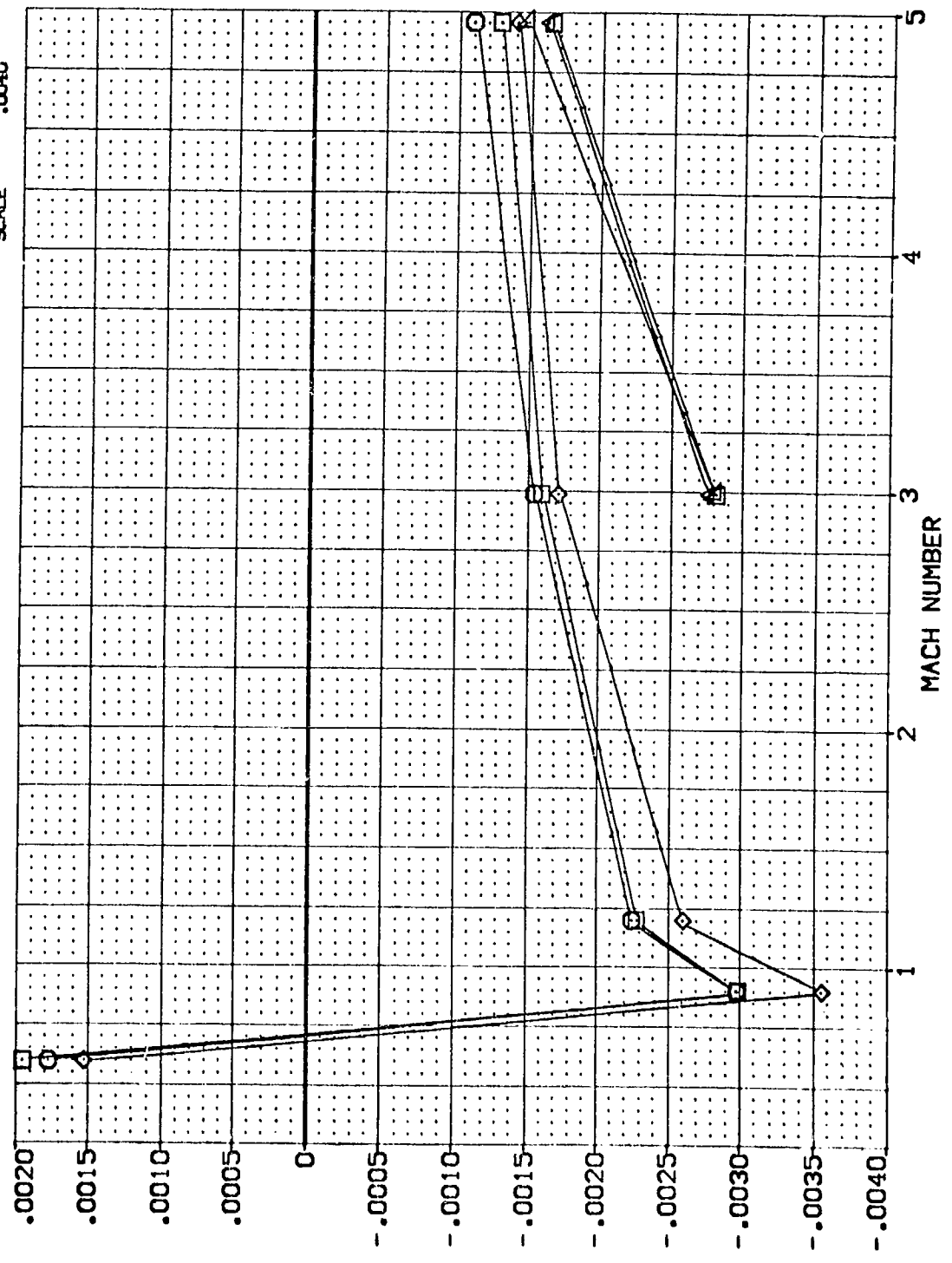


EFFECT OF RUDDER ON LATERAL-DIRECTIONAL CHARACTERISTICS

DATA SET SYMBOL CONFIGURATION DESCRIPTION ALPHA RUDDER SPDRBK BDFLAP REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDDER	SPDRBK	BDFLAP	REFERENCE INFORMATION
[RZ022]	HSFC S31 (DA49) CR3 34-0 (BDH) (VE) (VR)	20.000	-0.000	25.550	-11.700	SREF 2741.8000 SQ. FT
[RZ023]	HSFC S31 (DA49) CR3 34-0 (BDH) (VE) (VR)	20.000	-10.000	25.550	-11.700	LREF 491.6490 IN.
[RZ024]	HSFC S31 (DA49) CR3 34-0 (BDH) (VE) (VR)	20.000	-20.000	25.550	-11.700	BREF 536.7000 IN.
[RZ025]	HSFC S31 (DA49) CR3 34-0 (BDH) (VE) (VR)	30.000	-0.000	25.550	-11.700	XREF 1081.3900 IN.
[RZ026]	HSFC S31 (DA49) CR3 34-0 (BDH) (VE) (VR)	30.000	-10.000	25.550	-11.700	YREF 0.0000 IN.
[RZ027]	HSFC S31 (DA49) CR3 34-0 (BDH) (VE) (VR)	30.000	-20.000	25.550	-11.700	ZREF 0.0000 IN.
[RZ028]	HSFC S31 (DA49) CR3 34-0 (BDH) (VE) (VR)	30.000	-20.000	25.550	-11.700	SCALE .0040

YAWING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CYNBET, PER DEGREE

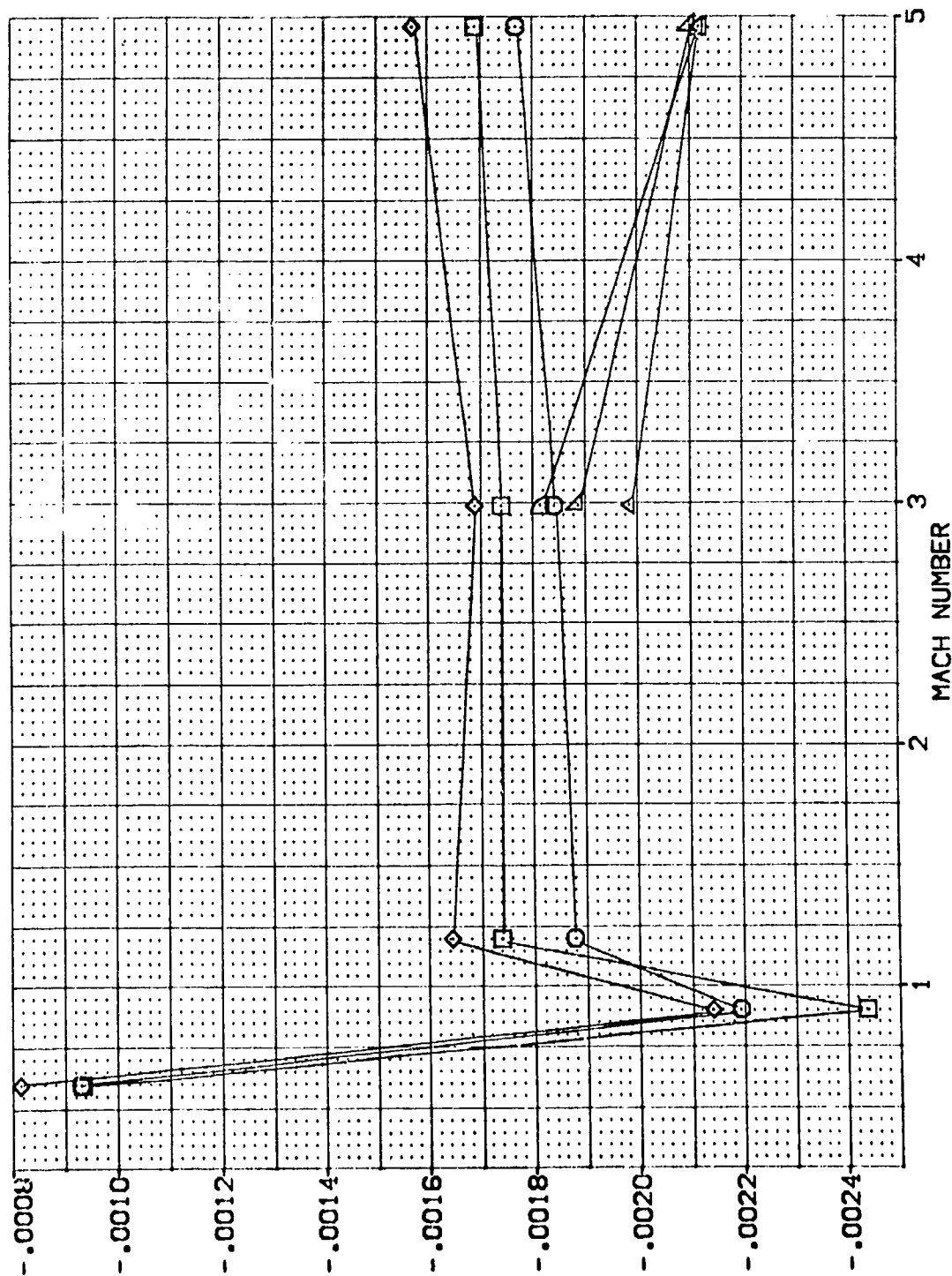


EFFECT OF RUDDER ON LATERAL-DIRECTIONAL CHARACTERISTICS

ROLLING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CBLBET, PER DEGREE

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDDER	SP. SEAK	BOFLAP	REFERENCE INFORMATION
RS2022	RSFC 581 (0A49) 028 34-0 (BDH) (VE) (VR)	20.000	0.000	25.550	-11.700	SREF 2741.8000 52. FT
RS2023	RSFC 581 (0A49) 028 34-0 (BDH) (VE) (VR)	20.000	-10.000	25.550	-11.700	LREF 481.6450 12. IN
RS2024	RSFC 581 (0A49) 028 34-0 (BDH) (VE) (VR)	20.000	-20.000	25.550	-11.700	BREF 536.7000 12. IN
RS2025	RSFC 581 (0A49) 028 34-0 (BDH) (VE) (VR)	30.000	0.000	25.550	-11.700	XREF 1531.2600 12. IN
RS2026	RSFC 581 (0A49) 028 34-0 (BDH) (VE) (VR)	30.000	-10.000	25.550	-11.700	YREF 0.0000 12. IN
RS2027	RSFC 581 (0A49) 028 34-0 (BDH) (VE) (VR)	30.000	-20.000	25.550	-11.700	ZREF 0.0000 12. IN
RS2028	RSFC 581 (0A49) 028 34-0 (BDH) (VE) (VR)	30.000	-20.000	25.550	-11.700	SCALE 0.0040



EFFECT OF RUDDER ON LATERAL-DIRECTIONAL CHARACTERISTICS

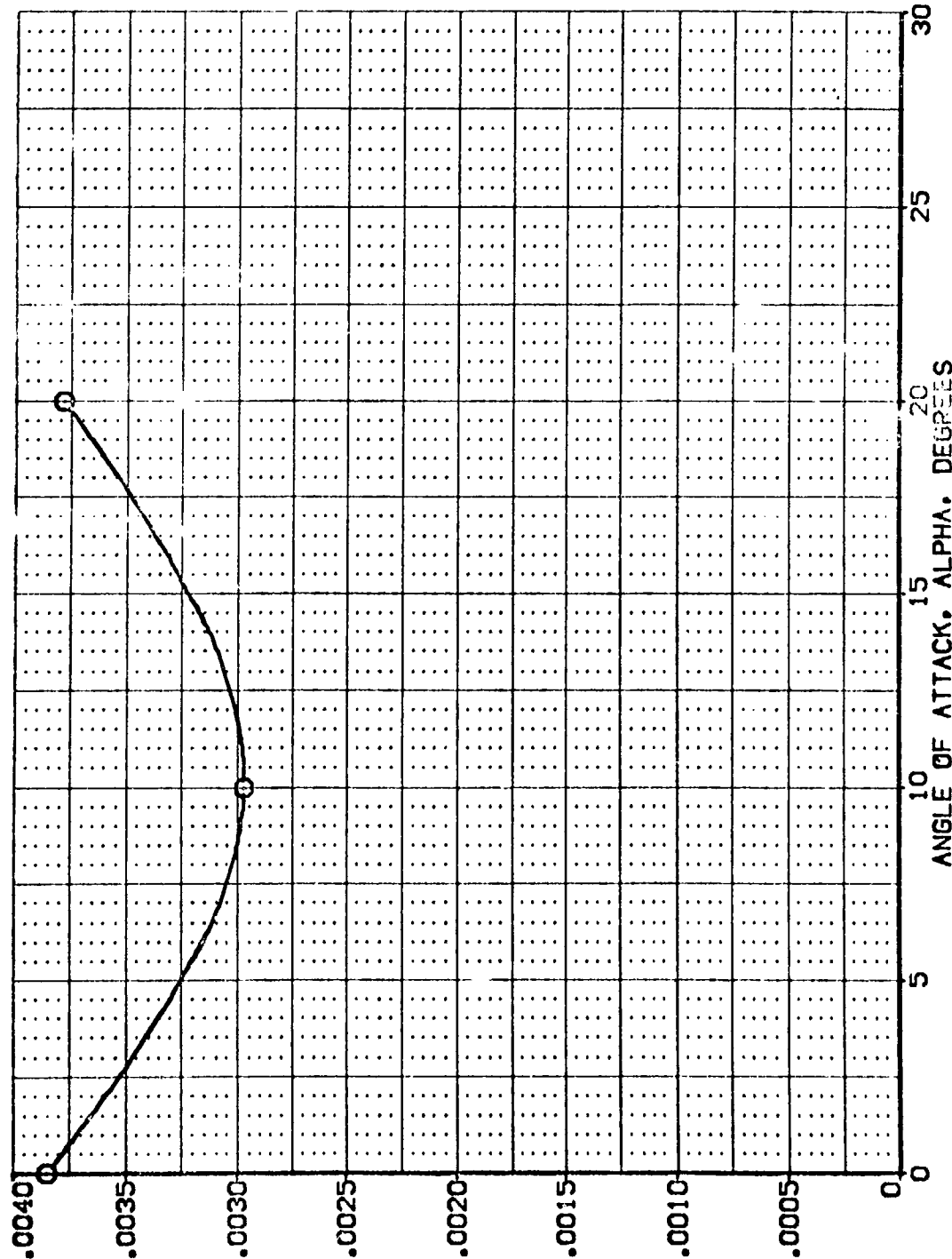
MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392036)

SYMBOL BETA
O .000

PARAMETRIC VALUES
MACH .697 DELRJD
BOFLAP -11.700 SPDRBK
ELEVTR 4.160 AILRON
CONFIG 1.000

DATA SOURCE
-10.000 DATASET
25.550 392036
-.670 392038

REFERENCE INFORMATION
SREF 2741.8000
LREF 451.5430
BREF 653.7000
XPRP 1081.5500
YPRP .0000
ZPRP .0000
SCALE .0040

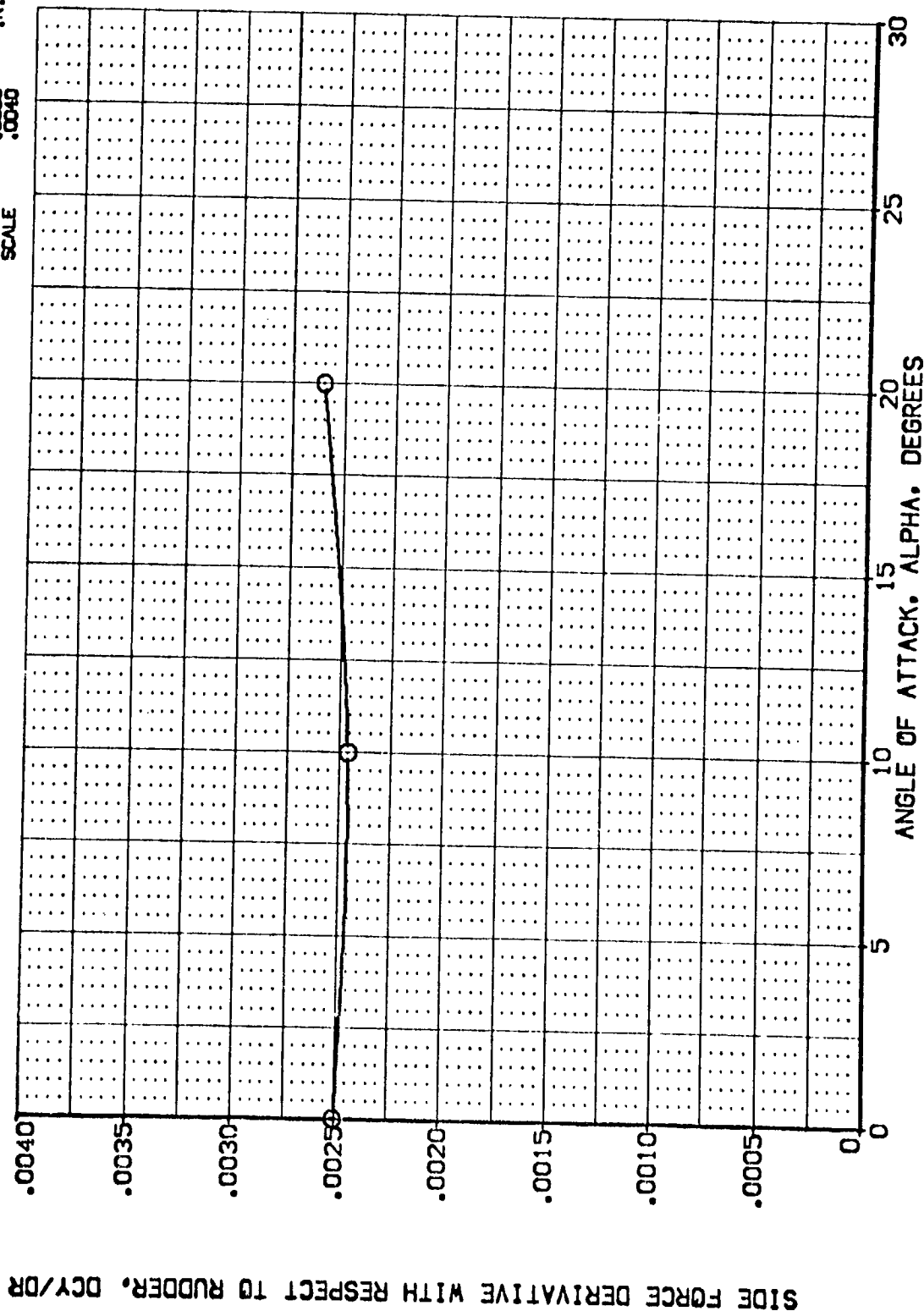


SIDE FORCE DERIVATIVE WITH RESPECT TO RUDDER, DCY/DR

RUDDER EFFECTIVENESS BETA SWEEP DATA

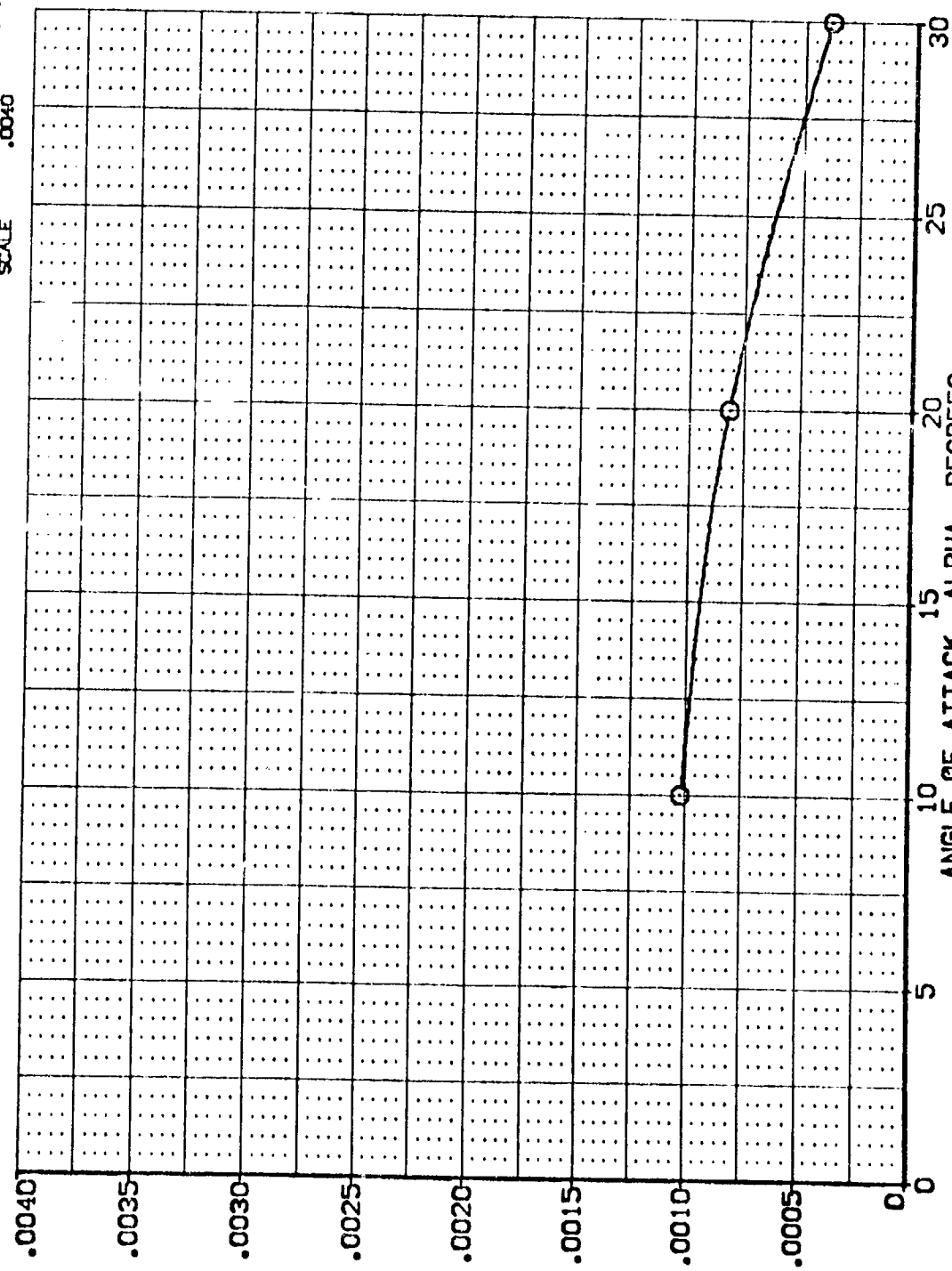
MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392036)

SYMBOL BETA .000
 PARAMETRIC VALUES
 MACH 1.195 DELTA 10.000
 BDFLAP -11.700 SPDRK 25.550 392 3
 ELEVTR 4.160 AILRON -.670 392
 CONFIS 1.000
 DATA SOURCE ALPHA 392037
 DATASET 392039
 REFERENCE INFORMATION
 SREF 2741.8000 30. FT
 LREF 481.6480 IN.
 BREF 536.7000 IN.
 XPRP 1081.3500 IN.
 YPRP .0000 IN.
 ZPRP .0000 IN.
 SCALE .0040



MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392036)

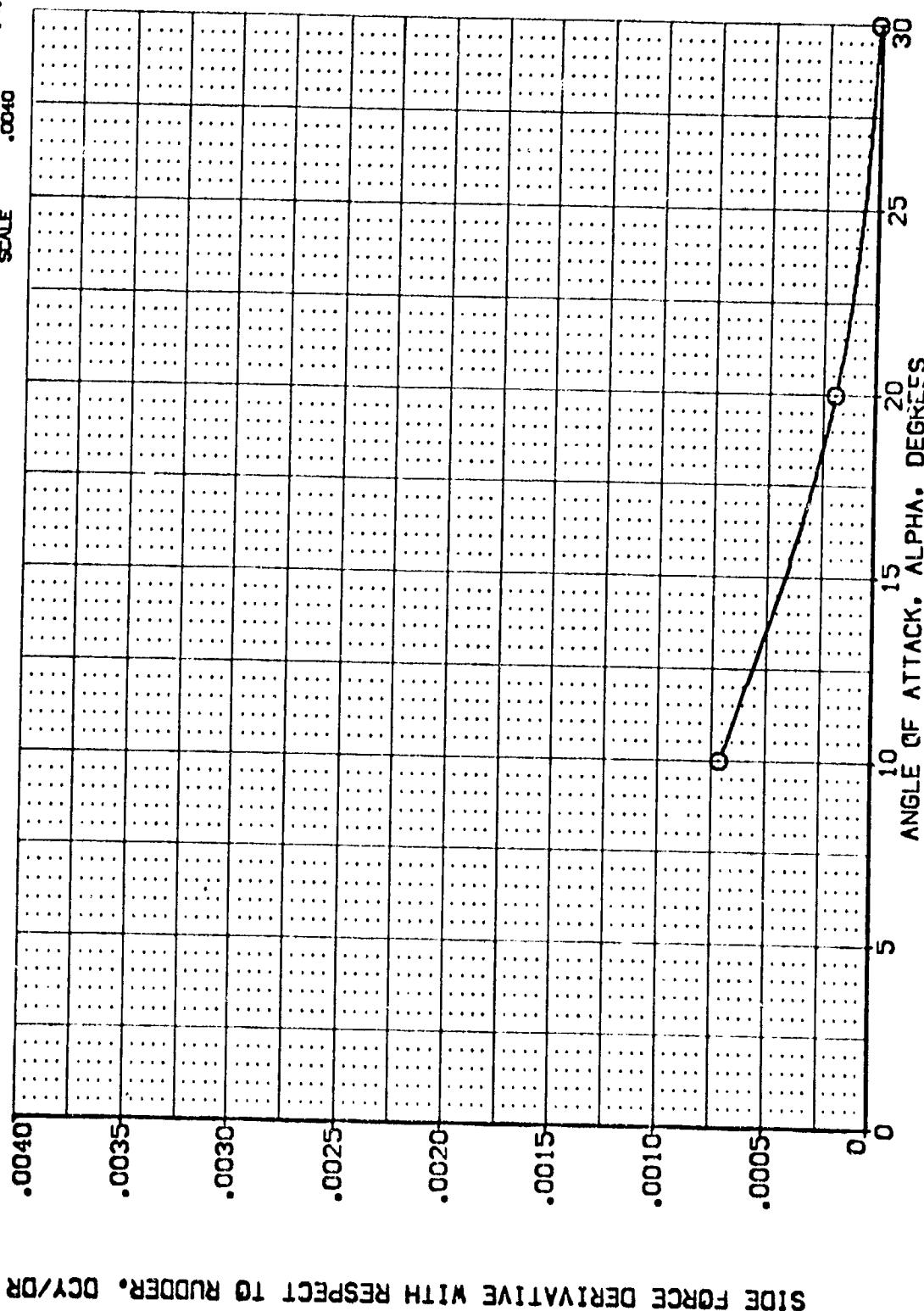
SYMBOL BETA .000
O
PARAMETRIC VALUES
MACH 2.930 DELRID -10.000 DATASET ALPHA DATA SOURCE
BOFLAP -11.700 SPDRK 25.550 392035 .000
ELEVTR 4.150 AILRON -.570 392038 20.000
CONFIS 1.000
REFERENCE INFORMATION
SREF 274.8000 SQ. FT
LREF 451.3450 IN.
XREF 935.7000 IN.
YREF 1081.3500 IN.
ZREF .0000 IN.
SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

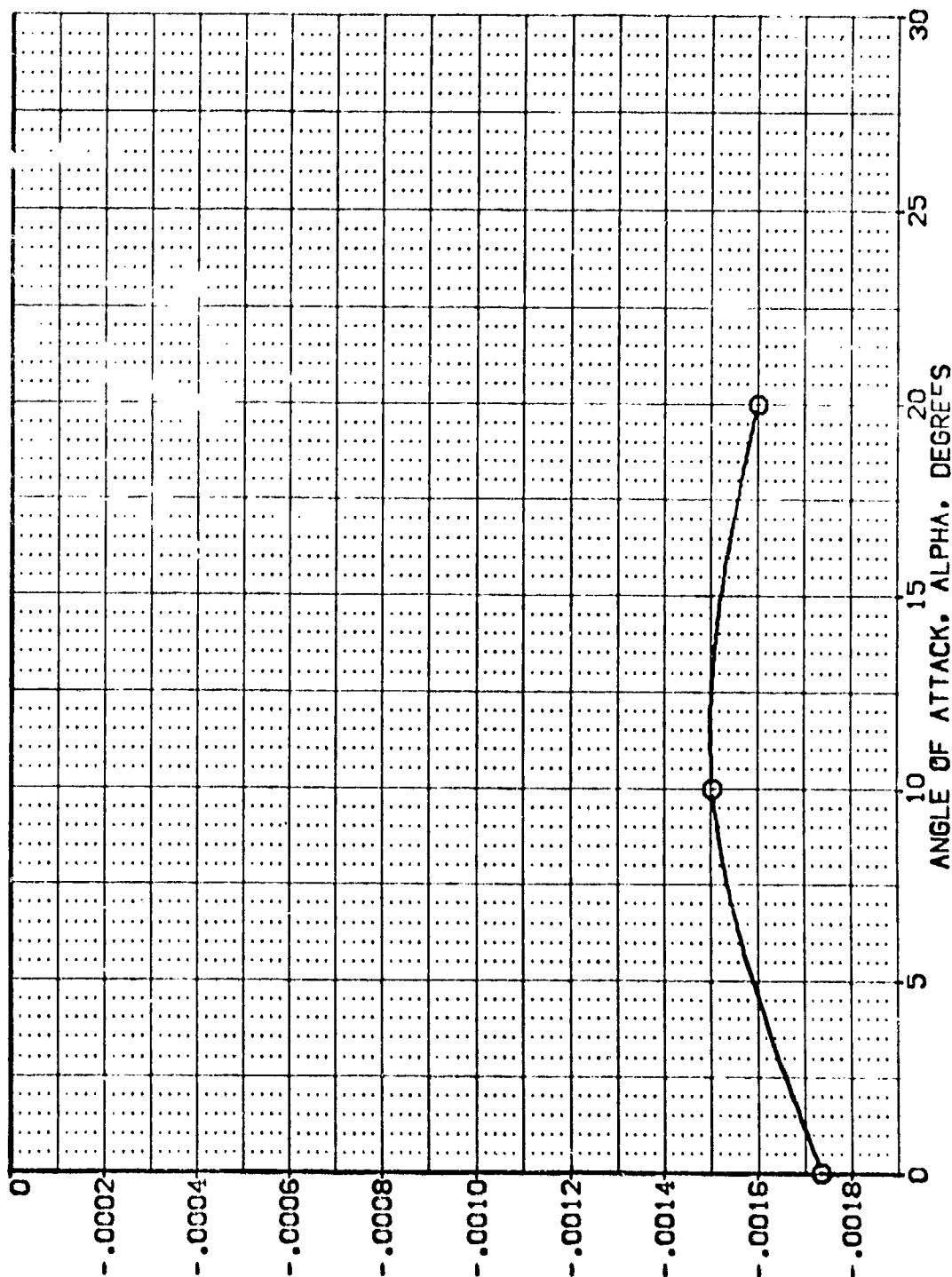
MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392036)

SYMBOL	BETA	0	.000
PARAMETRIC VALUES			
MACH	4.559	DELTA	-10.000
BOFLAP	-11.700	SPDRK	25.550
ELEVTR	4.160	AILRON	-6.670
CONFIG	1.000		
DATA SOURCE			
ALPHA	10.000	DATASET	392036
ALPHA	30.000	DATASET	392038
REFERENCE INFORMATION			
STEL	2741.8000	IN	50. FT
LREF	491.6480	IN	IN
BREF	936.7000	IN	IN
XMRP	1081.3500	IN	IN
YMRP	.0000	IN	IN
ZMRP	.0000	IN	IN
SCALE	.0040		



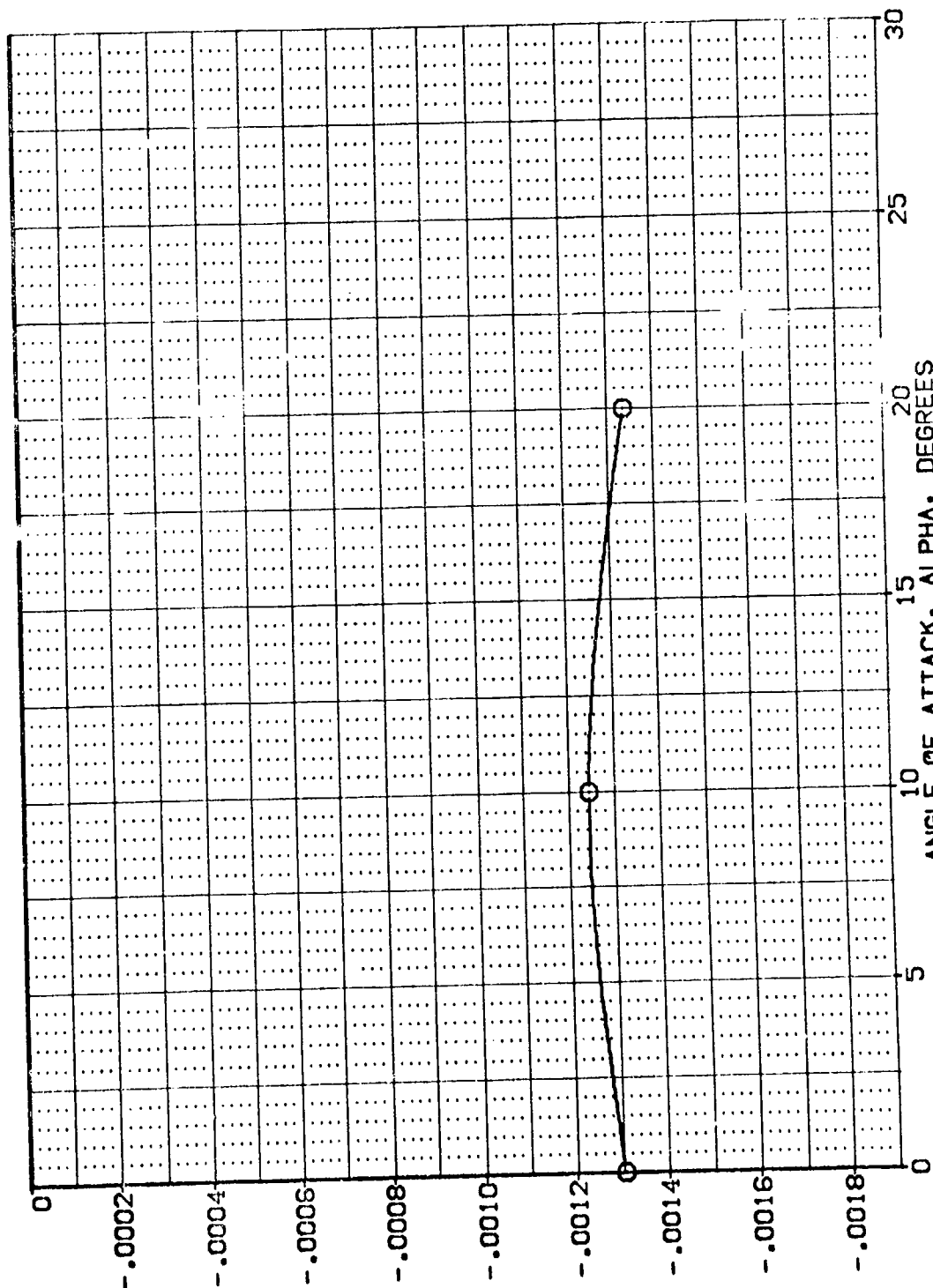
RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(CA49) ORB 34-0 (BCFM)(WE)(VR) (392036)

[illegible]

RUDDER EFFECTIVENESS BETA SWEEP DATA

Q. And that's the only one that was found?

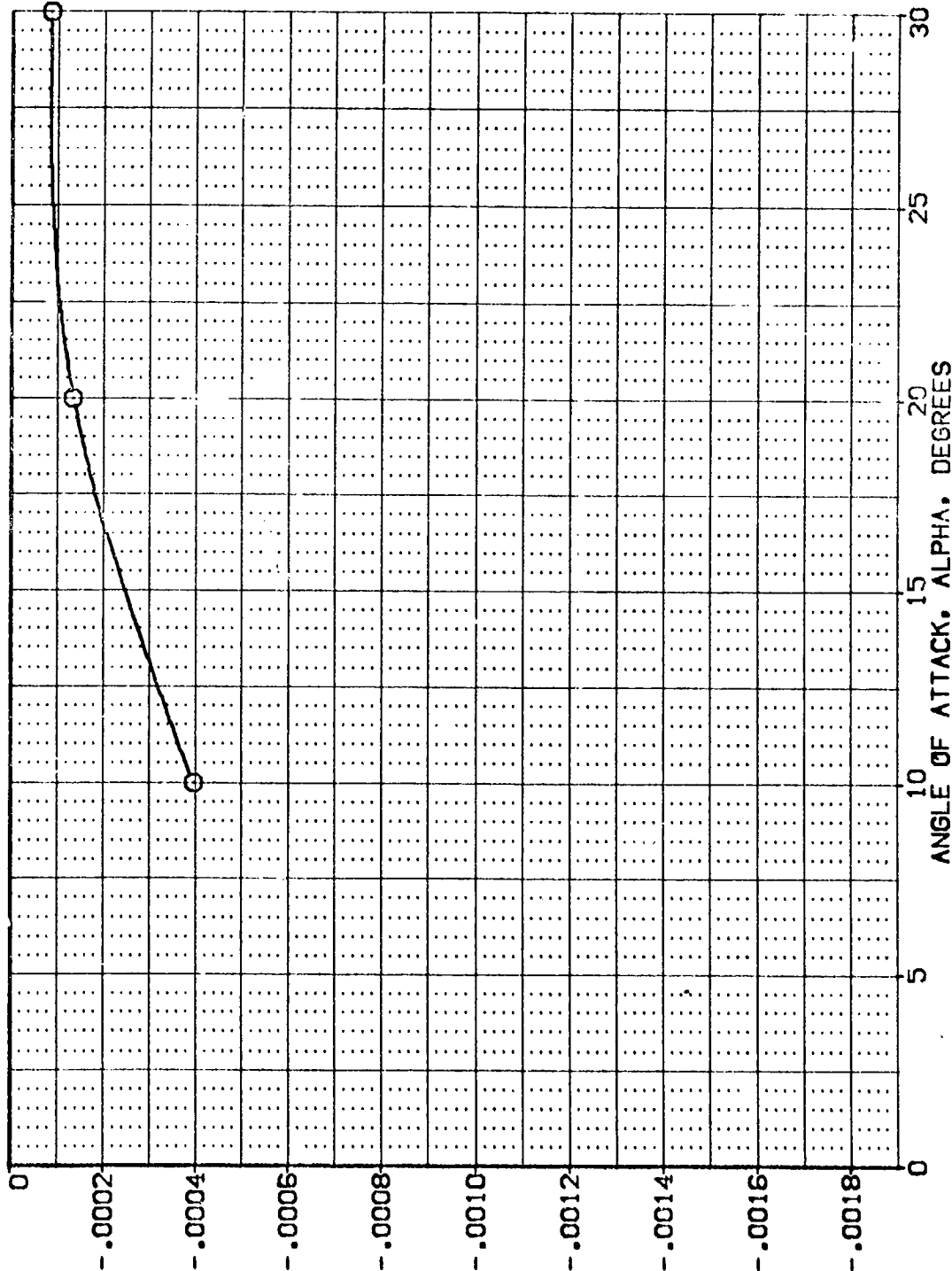


RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

(392036)

SYMBOL BETA .000 MACH 4.959 DELRUD -10.000 DATASET ALPHA .000 DATA SOURCE REFERENCE INFORMATION
O .000 BOFLAP -11.700 SPOBRK 25.950 392036 10.000 LREF 2741.8000 SQ. FT
ELEVTR 4.160 ALL RGN -.670 392038 30.000 BREF 481.6450 IN.
CONFIB 1.000 .0000 XMRP 1081.3900 IN.
ZMRP .0000 IN.
SCALE .0040

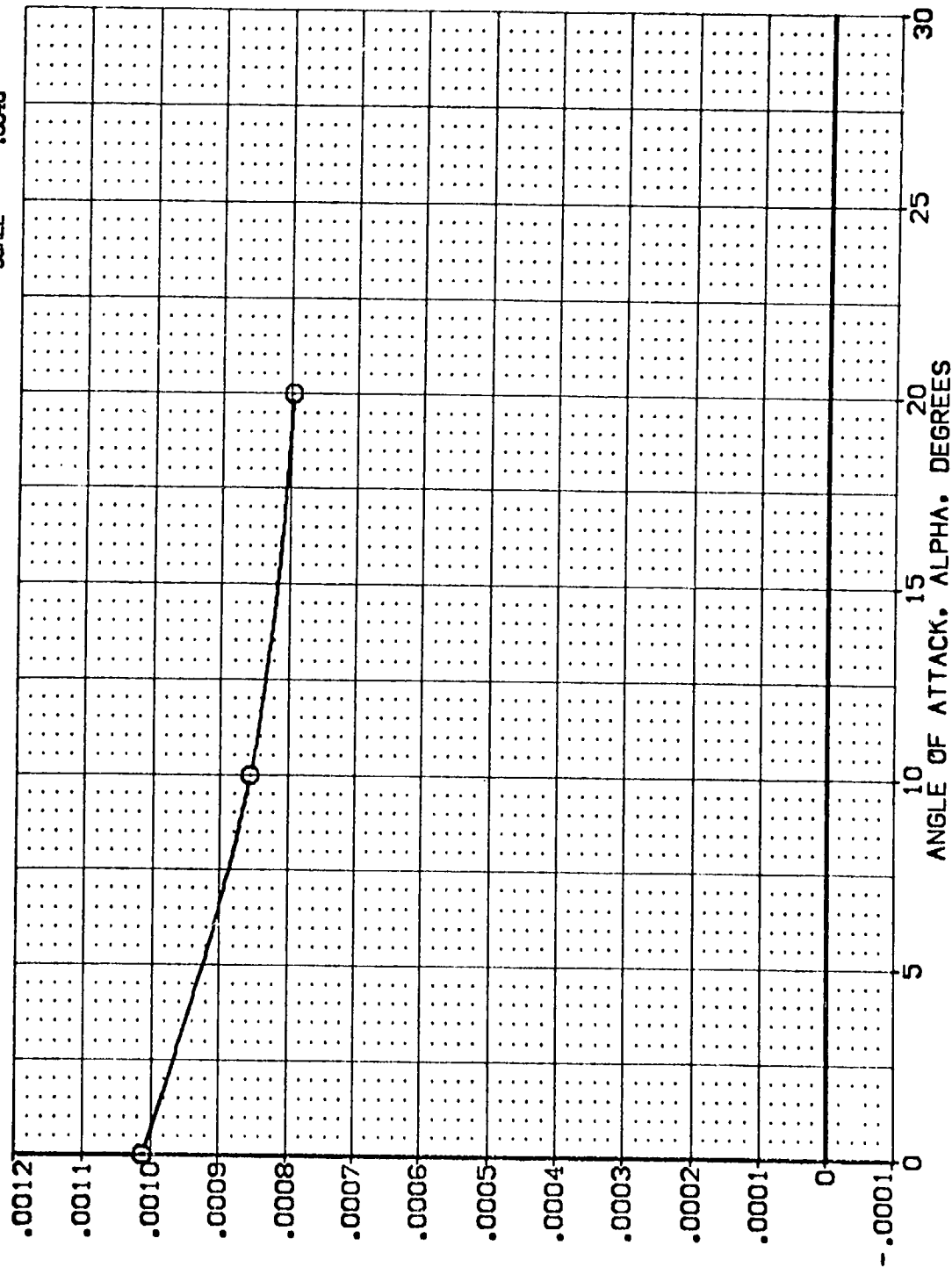


RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392036)

SYMBOL BETA .000
O

PARAMETRIC VALUES			DATA SOURCE		REFERENCE INFORMATION	
MACH	.559	DELROD	-10.000	DATASET	ALPHA	REF
BDFLAP	-11.700	SPOBRK	25.550	392036	10.000	LREF
ELEVTR	4.160	AILRON	-.670	392038	30.000	BREF
CONF16	1.000					XREF
						YREF
						ZREF
						SCALE
						SG: FT
						IN:
						IN:
						IN:
						IN:



ROLLING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCBLDR

RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) [392036]

SYMBOL BETA 00000000

WACH	.897
BOFLAP	-11.700
ELEVTR	4.180
CONFIG	1.000

PARAMETRIC VALUES	
DELTA	.997
SPD	-11.700
AIL	4.160
IRON	1.000

DATA	ALPHA	DATA	ALPHA
-10.000	25.550	392036	20.000
25.550	-670	392038	20.000

DATA SOURCE
ALPHA
20.000
20.000

DATASET
382037
382038

ALPHA	SREF
10.000	LREF
30.000	BREF
	VRP
	VRP

REFERENCE INFORMATION

2741	8000	99	FT
681	6480	IN	
935	7000	IN	
1081	3500	IN	
	0000	IN	
	0000	IN	
	0040	IN	

Iterations	Error
0	0.00115
10	0.00090
20	0.00080

10 15 20
ANGLE OF ATTACK, ALPHA, DEGREES

RUDDER EFFECTIVENESS BETA SWEEP DATA

(392036)

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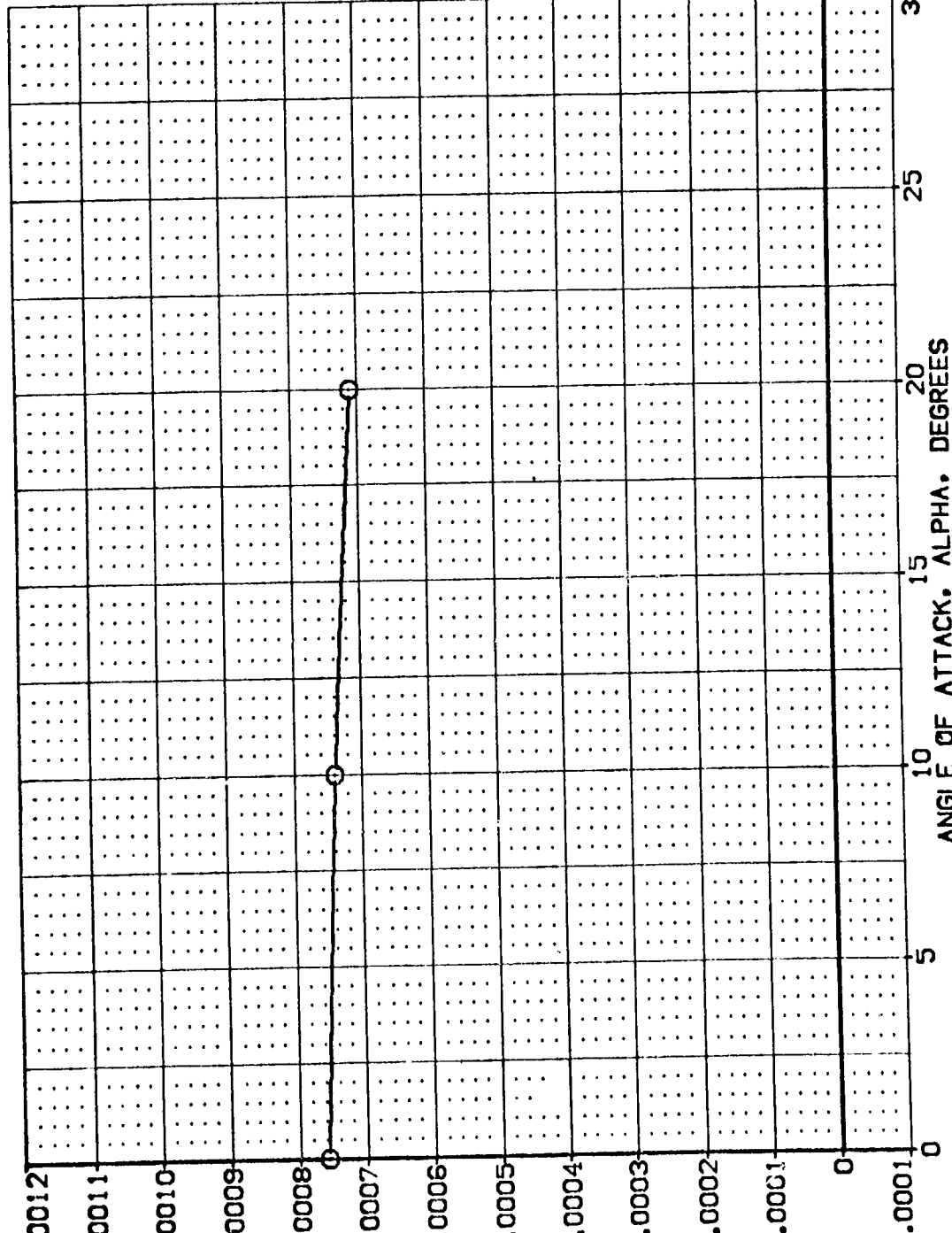
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ROLLING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCBLDR



RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392036)

SYMBOL BETA
O .000

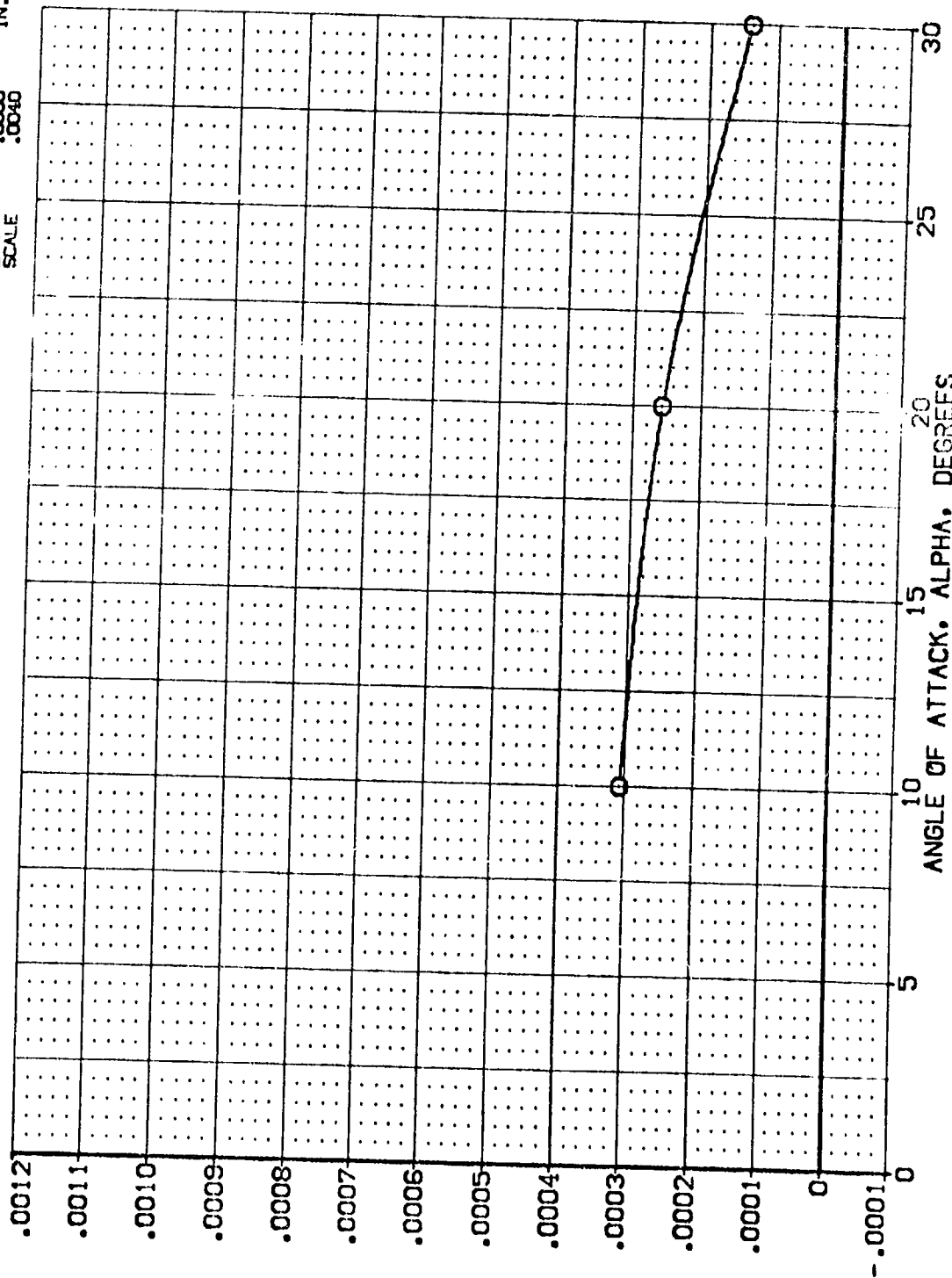
PARAMETRIC VALUES
MACH 2.950 DELRUD
BOFLAP -11.700 SPOBRK
ELEVTR 4.160 AIRRON
CONF16 1.000

-10.000 DATASET
25.550 392036
-6.70 392036

DATA SOURCE
ALPHA 20.000

ALPHA 10.000
30.000

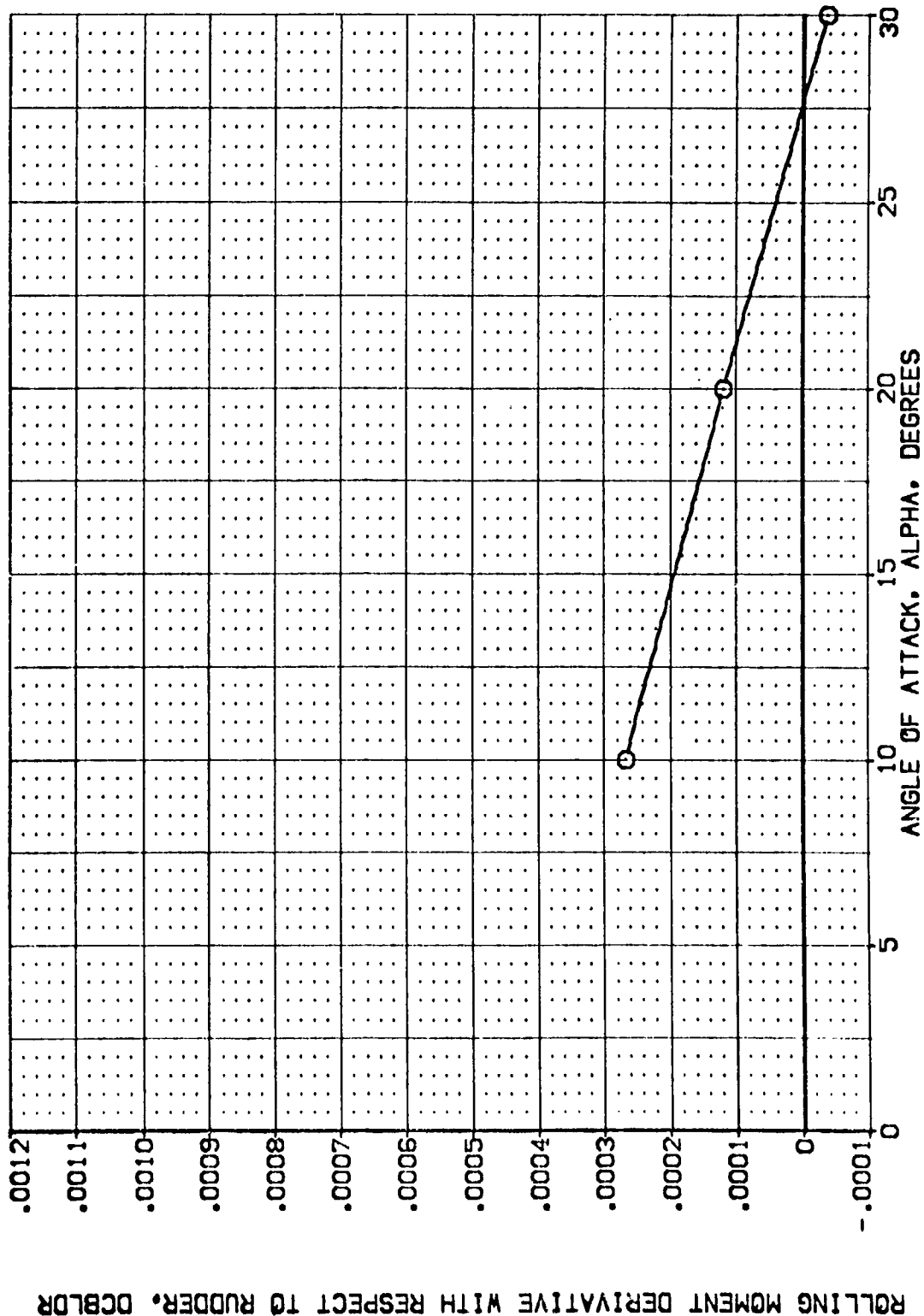
REFERENCE INFORMATION
SREF 2741.6000 SQ. FT
LREF 481.6483 IN.
SREF 936.7000 IN.
XMRP 1081.3900 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392036)

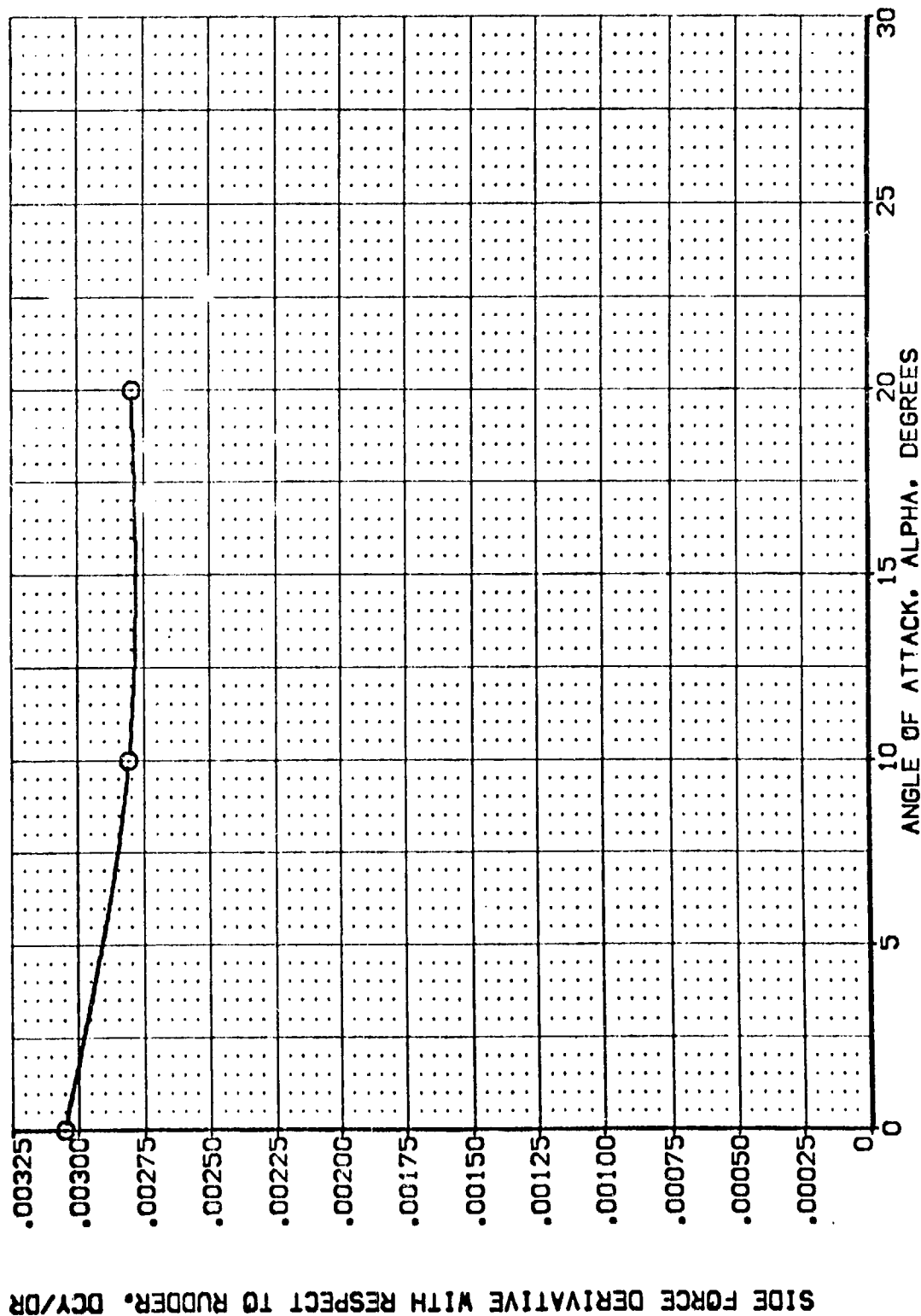
SYMBOL	BETA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
O	.000	MACH 4.559 DELRUD BDFLAP -11.700 SPDRK ELEVTR 4.160 AILRON CONFIG 1.000	-10.000 DATASET ALPHA 25.550 392036 .000 -.670 392038 20.000	SREF 2741.8000 SQ. FT LREF 481.6480 IN. BREF 936.7000 IN. XREF 1081.3500 IN. YREF .0000 IN. ZREF .0000 IN. SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392041)

SYMBOL BETA .000 MACH .559 DELRUD -20.000 DATASET ALPHA .000
 BDFLAP -11.700 SPOBRK 25.550 392041 .000
 ELEVTR 4.160 AILRON -.570 392043 20.000
 CONF16 1.000
 REFERENCE INFORMATION
 2741.8000 SQ. FT
 481.5480 IN.
 655.7000 IN.
 1061.3500 IN.
 0.0000 IN.
 0.0000 IN.
 0.0000 IN.
 0.0040 IN.
 SCALE



RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (39204)

SYMBOL **BETA**

8.

PARAMETRIC VALUES

1-197 DEL-80

! 700 SP-088K

4.180 AIRLON

1.000

DATA SOURCE

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R

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88.28

REFERENCE INFORMATION

REFERENCE INFORMATION

2/4! 3/3! 4/2! 5/1!

936.7000
IN.

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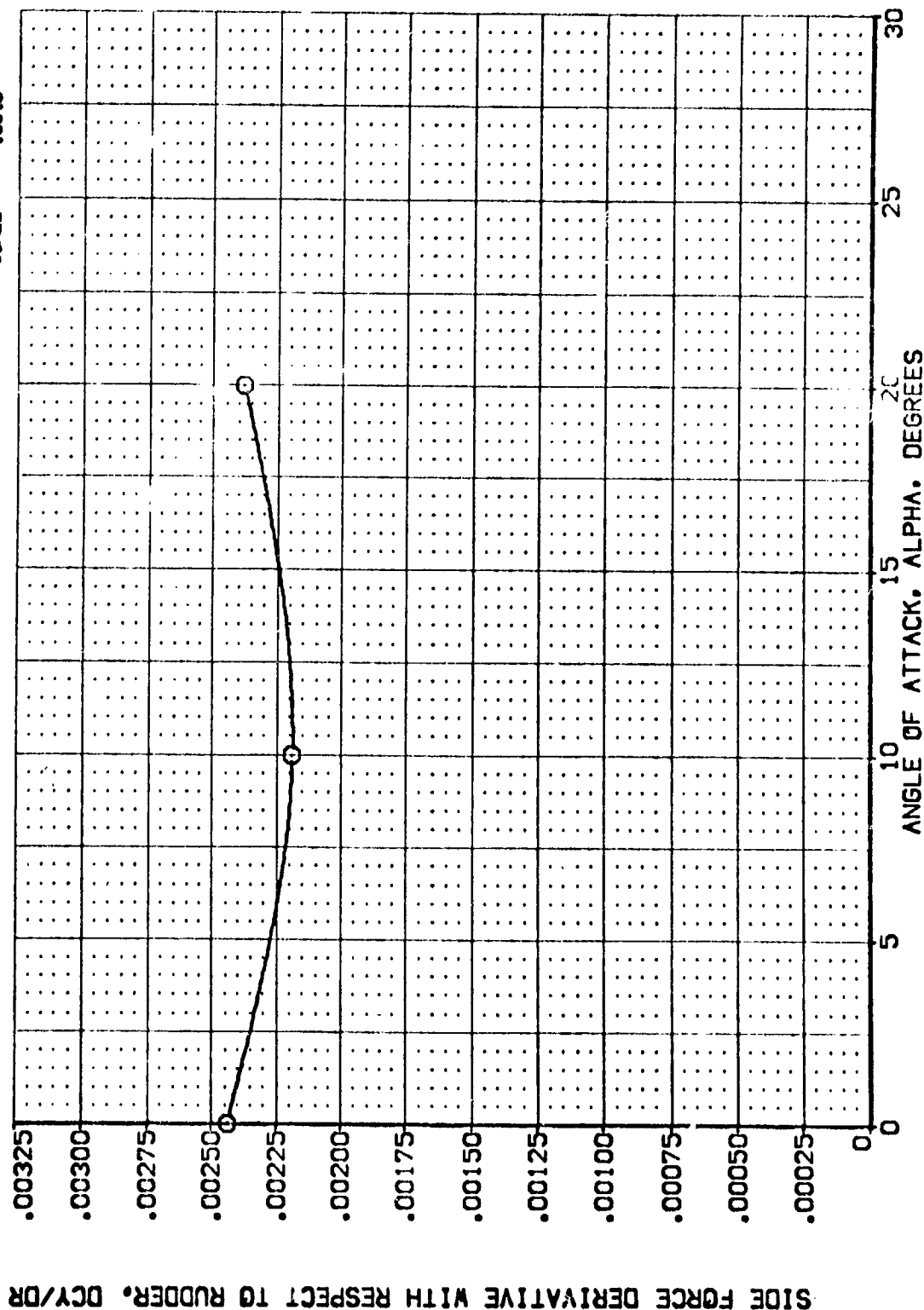
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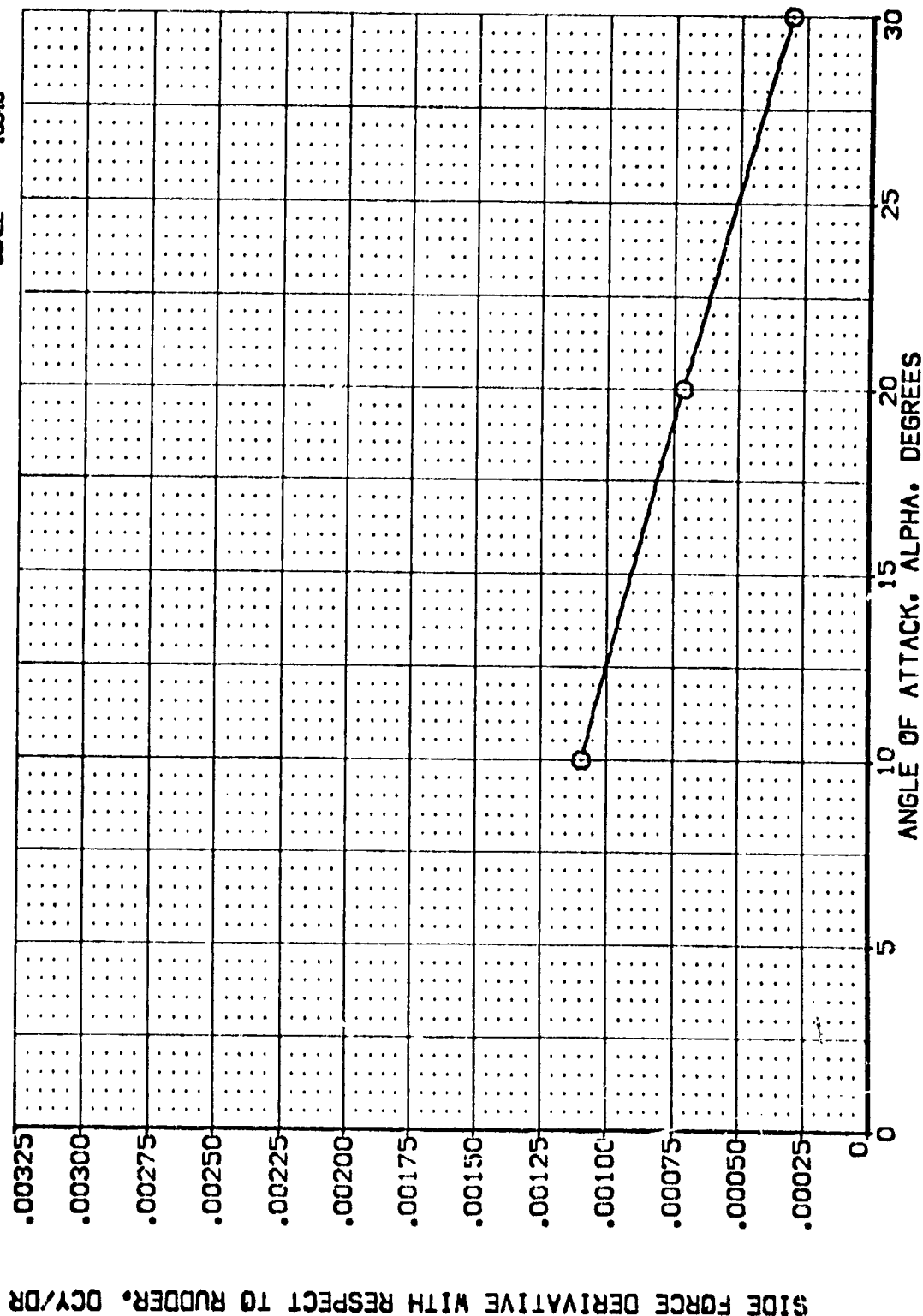


ANGLE OF ATTACK. ALPHA. DEGREES

RUDDER EFFECTIVENESS BETA SWEEP DATA

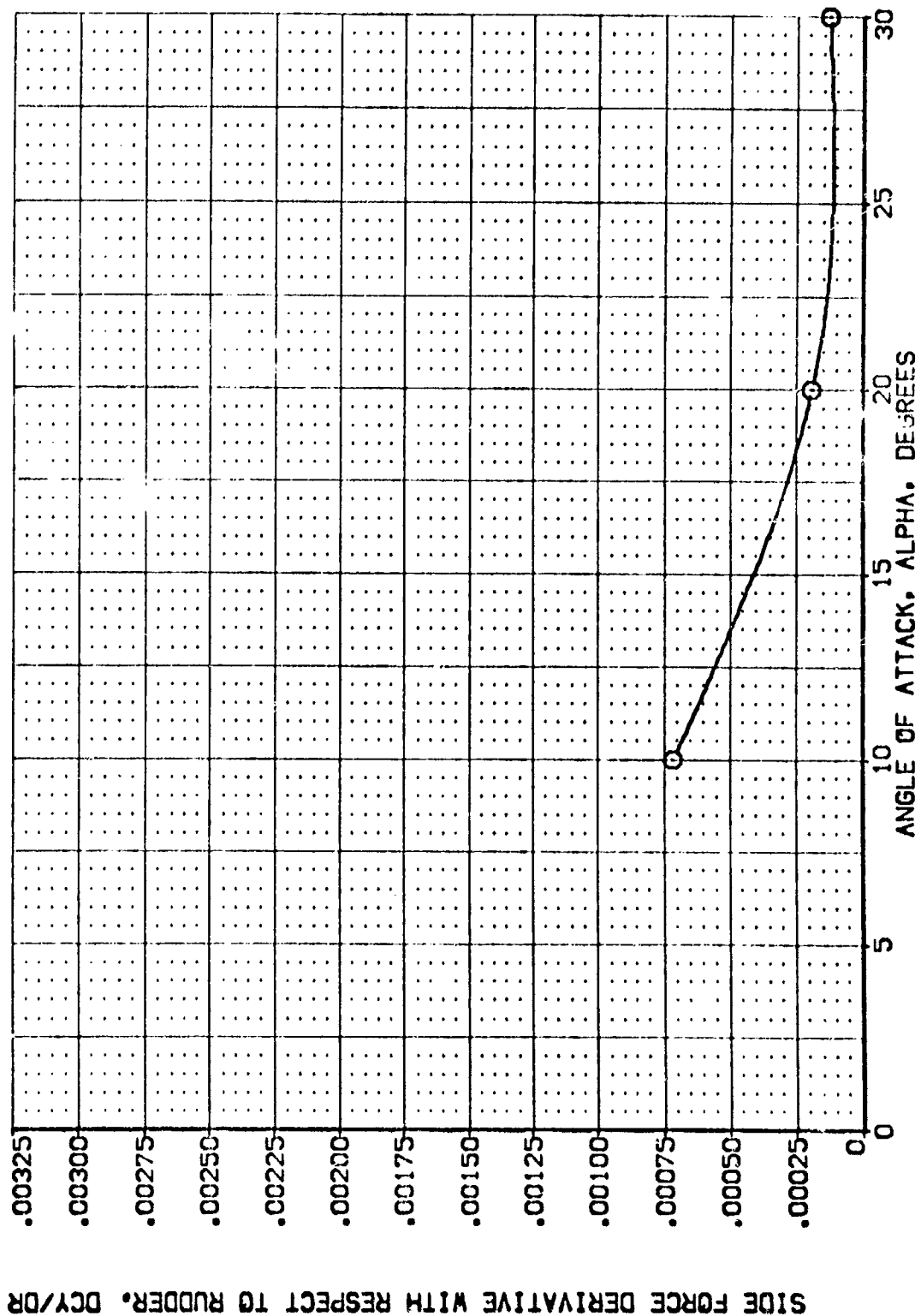
MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392041)

SYMBOL	BETA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
0	.000	MACH 2.950 BDFLAP -11.700 ELEVTR 4.160 CONF16 1.000	ALPHA -20.000 25.550 -6.70	SREF 2741.0000 LREF 481.6460 BREF 536.7000 XPRP 1081.3500 YPRP .0000 ZPRP .0000 SCALE .0040
				SO. FT IN. IN. IN. IN. IN.



RUDDER EFFECTIVENESS BETA SWEEP DATA

SYMBOL BETA .000
 0
 PARAMETRIC VALUES
 MACH 4.559 DELRJD
 BOFLAP -11.700 SPDRBK
 ELEVTR 4.160 AILRON
 CONFIG 1.000
 DATA SOURCE
 ALPHA -20.000 DATASET 392041
 ALPHA 20.000
 DATASET 392042
 392044
 REFERENCE INFORMATION
 Z74 .8000
 SREF 48.8452
 LREF 826.7300
 1081.3500
 XREF .0000
 YREF .0000
 ZREF .0040
 SCALE IN. IN. IN. IN.



(392041)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

REFERENCE INFORMATION
SQ. FT
IN.
IN.
IN.
IN.
IN.
IN.

DATA SOURCE
ALPHA
20.000
20.000
20.000

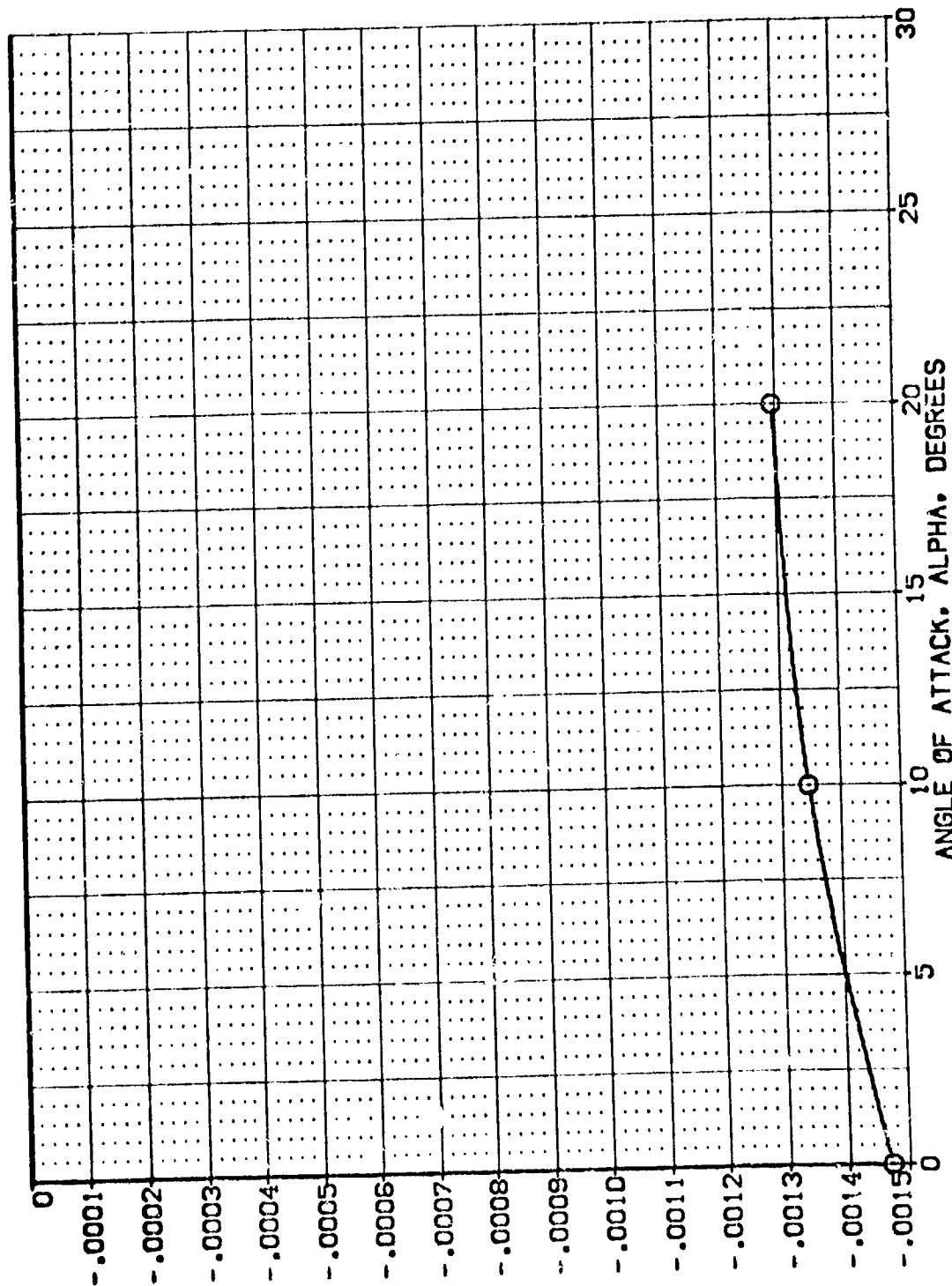
DATA SOURCE
ALPHA
20.000
20.000
20.000

PARAMETRIC VALUES
DELTA
-20.000
25.550
-5.70

PARAMETRIC VALUES
DELTA
-20.000
25.550
-5.70

PARAMETRIC VALUES
DELTA
-20.000
25.550
-5.70

PARAMETRIC VALUES
DELTA
-20.000
25.550
-5.70



YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR

RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392041)

SYMBOL **BETA**

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PARAMETRIC VALUES

**786 DEL RUC
CINCO VALDES**

DELTA
SPRINK
-11.700

4.150
1.000
AIRPORT

DATA SOURCE

ALPHA

88.

DATASET

392042
DA1A3E1

392044

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REFERENCE INFORMATION

2741.5000 23. 13.

481.5480
936.7000

1081. 3367
3368. 7003
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Dr. C.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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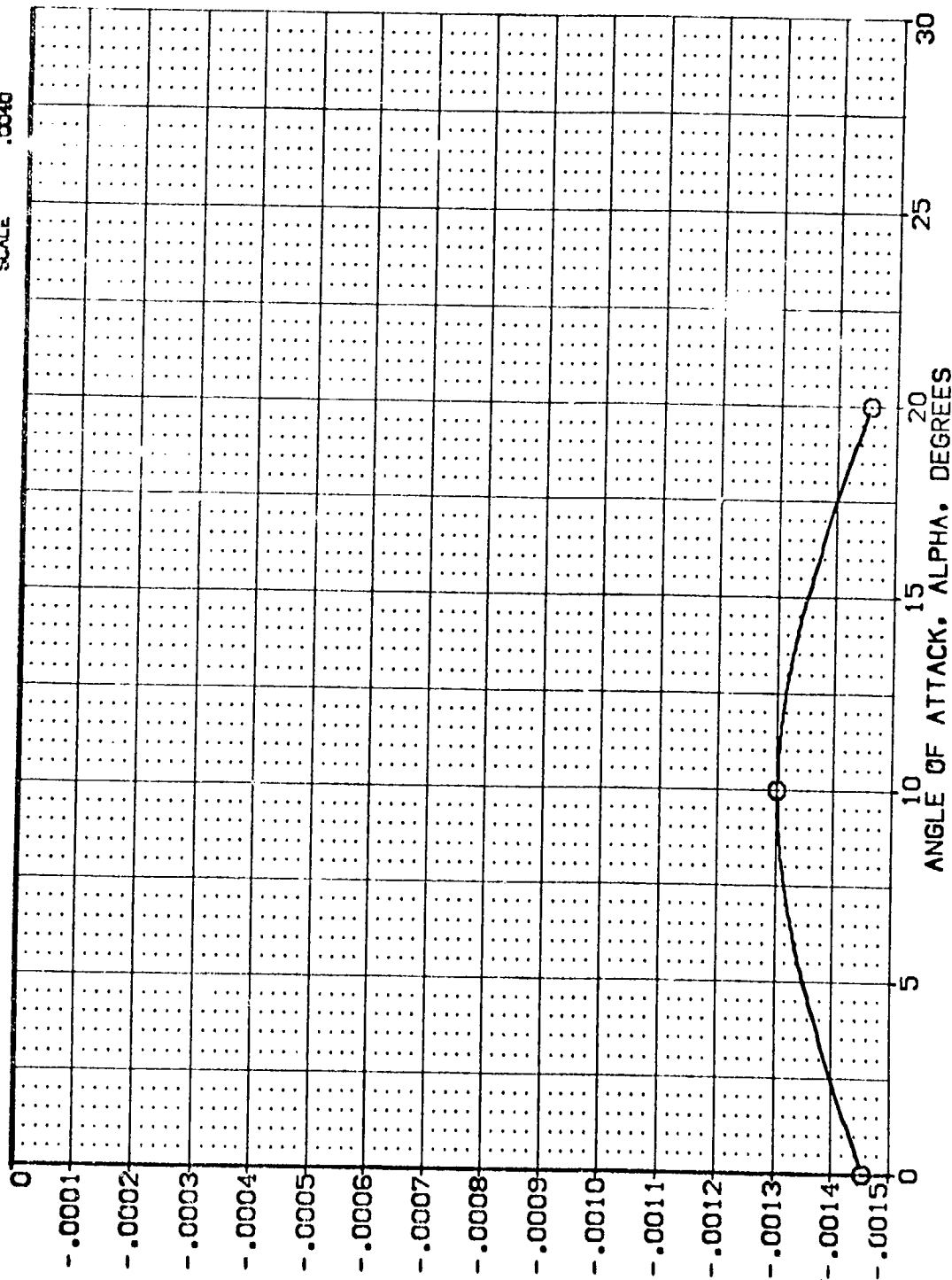
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ANGLE OF ATTACK, ALPHA, DEGREES

RUDDER EFFECTIVENESS BETA SWEEP DATA

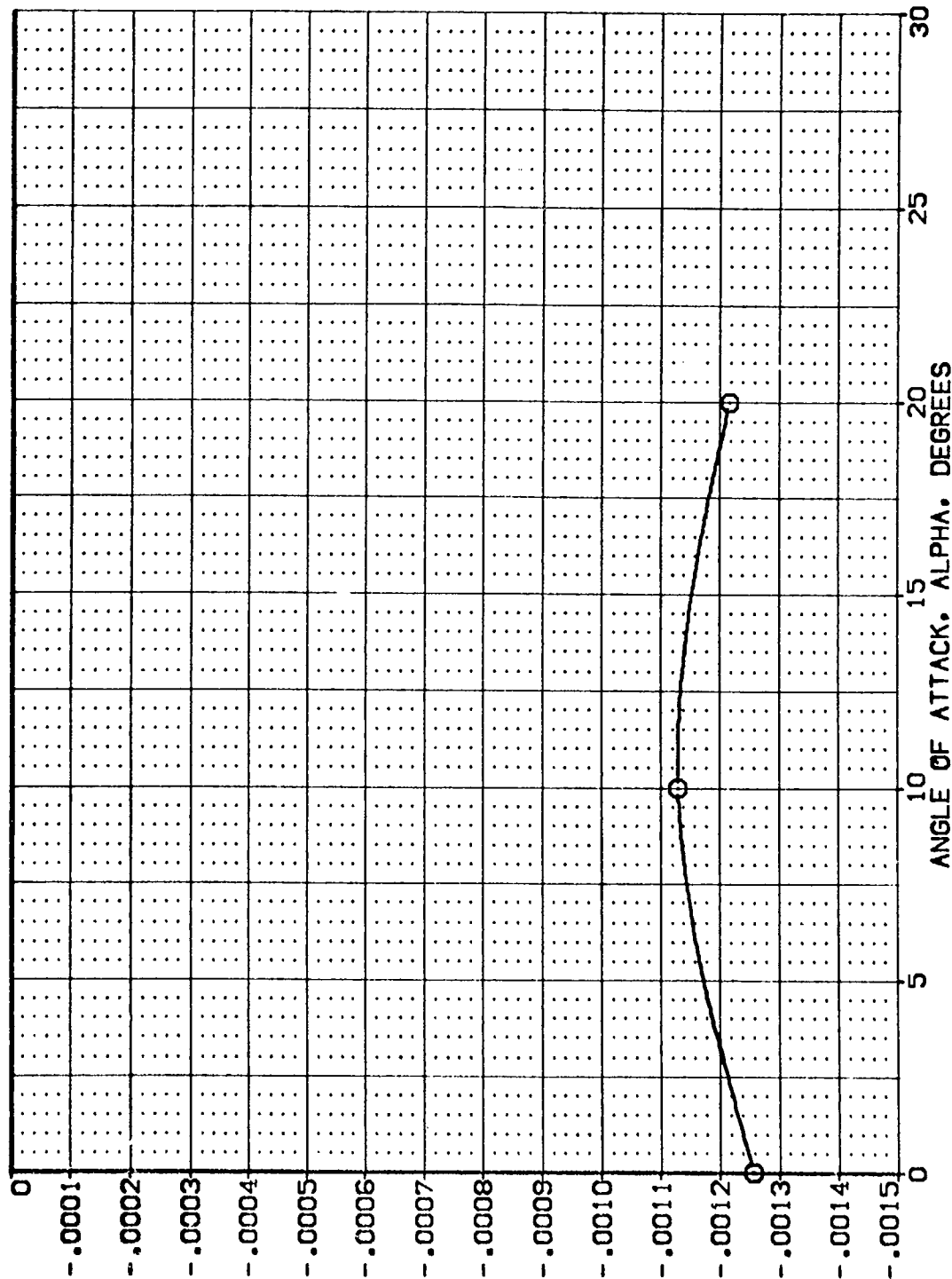
MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392041)

SYMBOL BETA .001
O

PARAMETRIC VALUES
MACH 1.197 DELRUD -20.000 DATASET 392041
BOFLAP -11.700 SPOBRK 25.550 392041
ELEVTR 4.160 AILRON -.670 392043
CONFIG 1.000

DATA SOURCE
ALPHA .000
20.000

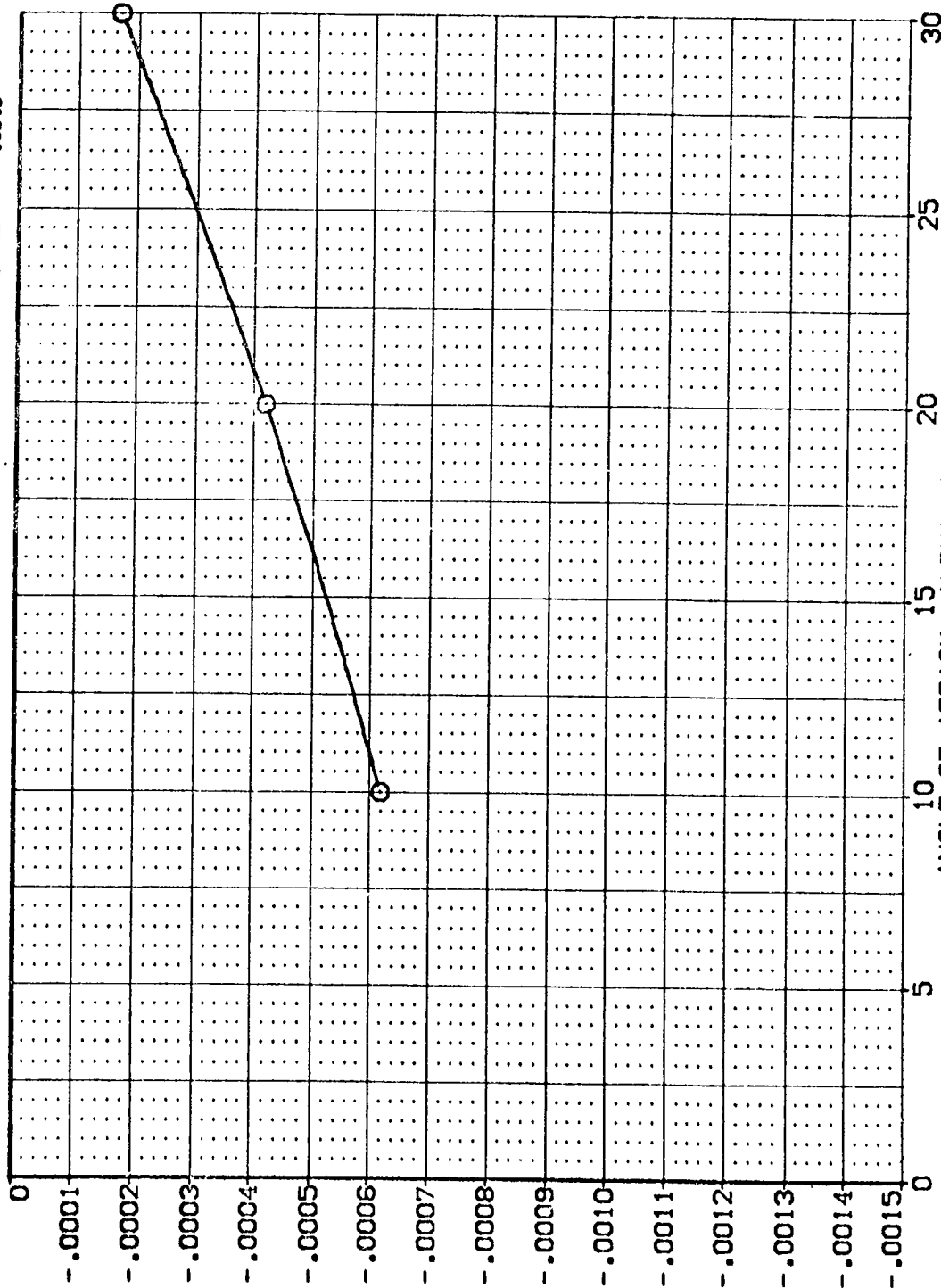
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LREF 481.6480 IN.
BREF 936.7000 IN.
XPRP 1081.3500 IN.
YPRP .0000 IN.
ZPRP .0000 IN.
SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392041)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA	REFERENCE INFORMATION
0	.000	2.950	DEL RUD	ALPHA	20.000	2741.8000
		-11.700	SPOBRK	392041	10.000	48.6480
		4.160	AILRON	392043	30.000	936.7000
		1.000				1081.3500
						.0000
						.0000
						.0040

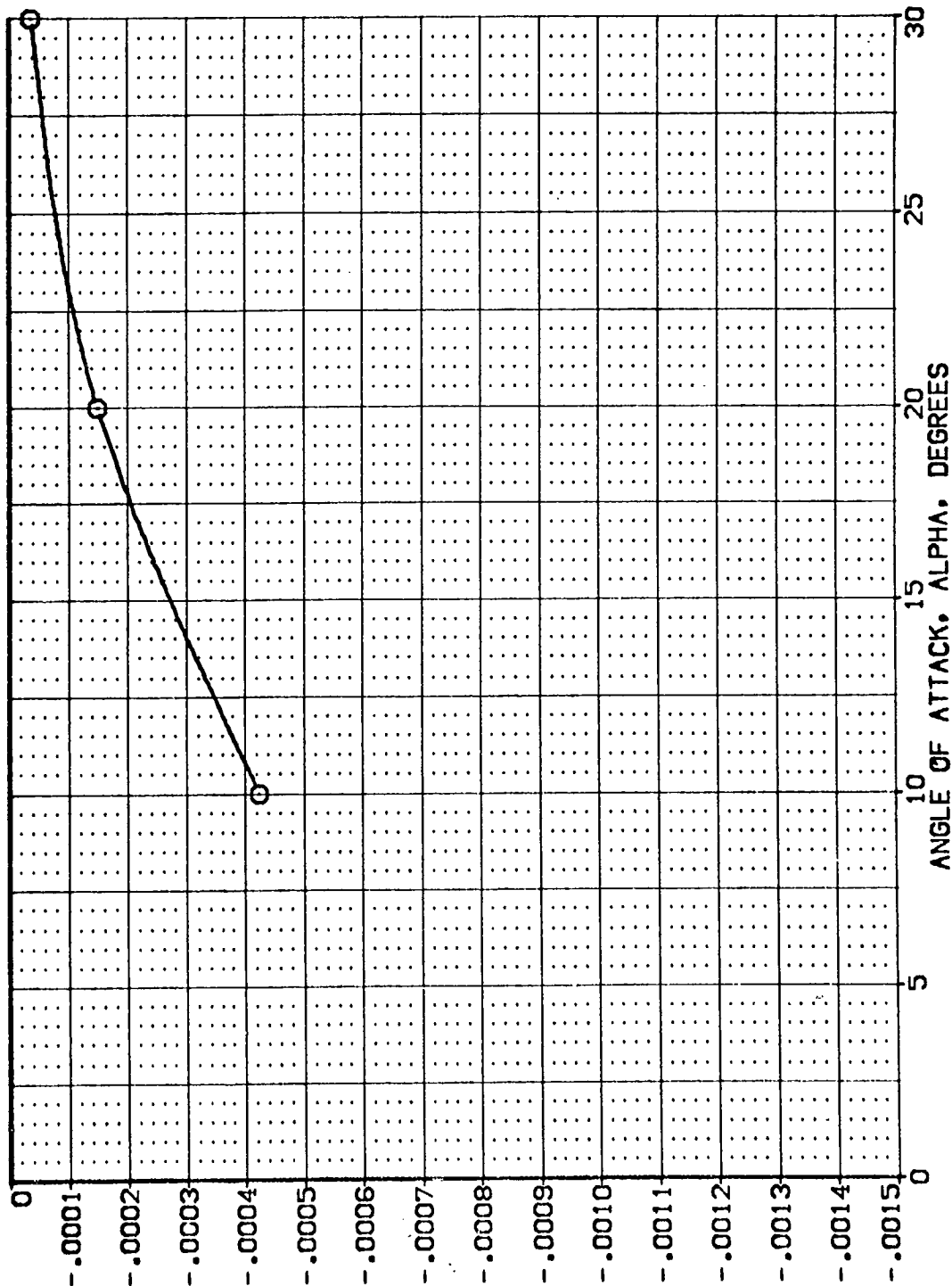


RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392041)

SYMBOL	BETA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
0	.000	MACH 4.959 DELRID -20.000 DATASET ALPHA 392042	SREF 2741.8000	SG. FT
		BDFLAP -11.700 SPOBRK 25.550 392041	LREF 481.6480	IN.
		ELEVTR 4.160 AILRON -.670 392043	BREF 936.7000	IN.
		CONFIS 1.000	XREF 1081.2500	IN.
			YREF .0000	IN.
			ZREF .0000	IN.
			SCALE .0040	

YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR



RUDDER EFFECTIVENESS BETA SWEEP DATA

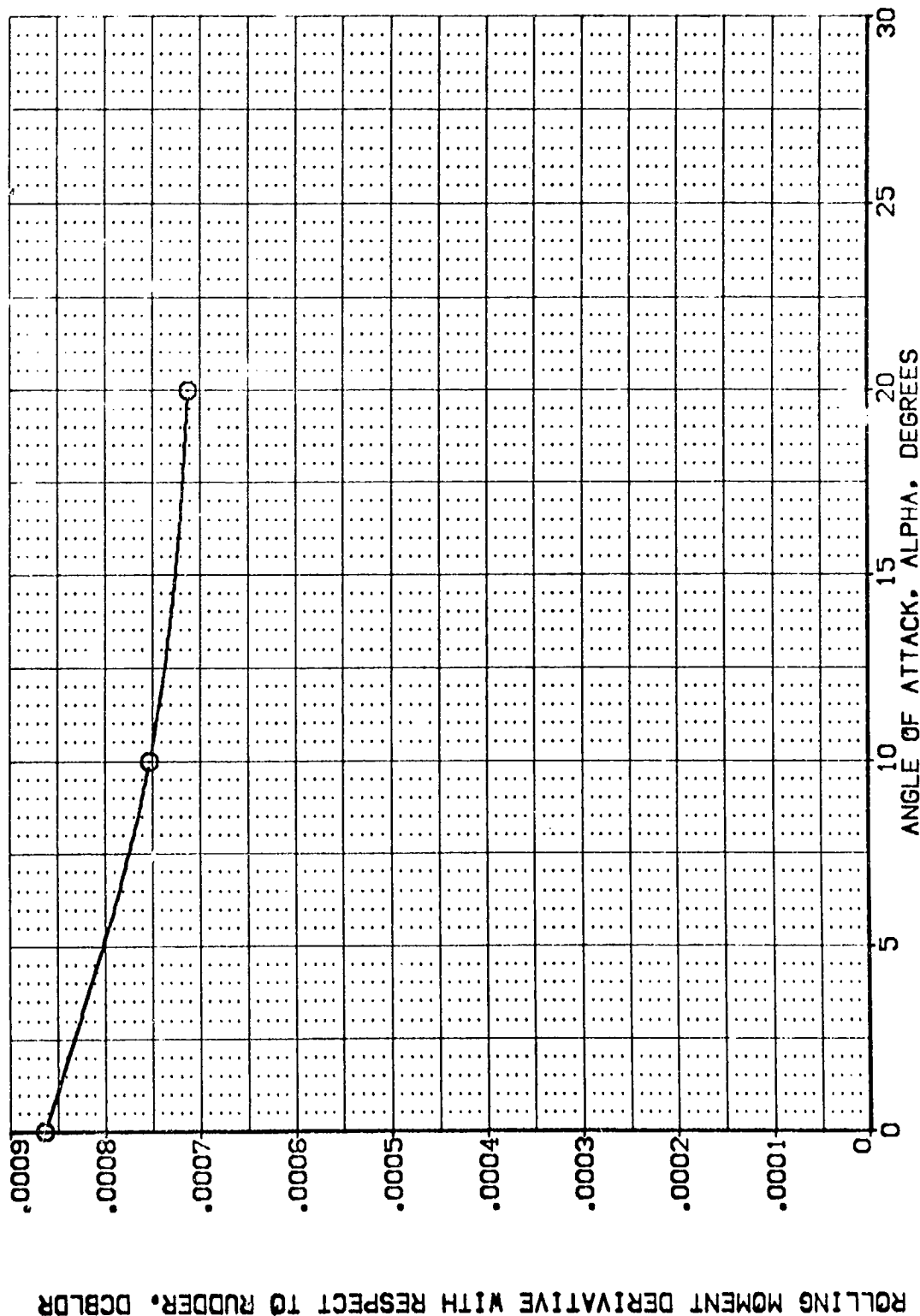
MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392041)

SYMBOL BETA .0009
O

PARAMETRIC VALUES
MACH .599 DELRUD -20.000 DATASET ALPHA .000
BDFLAP -11.700 SPOBRK 25.550 392041
ELEVTR 4.160 AIRRON -.670 392043
CONFIG 1.000

DATA SOURCE
ALPHA 10.000
30.000

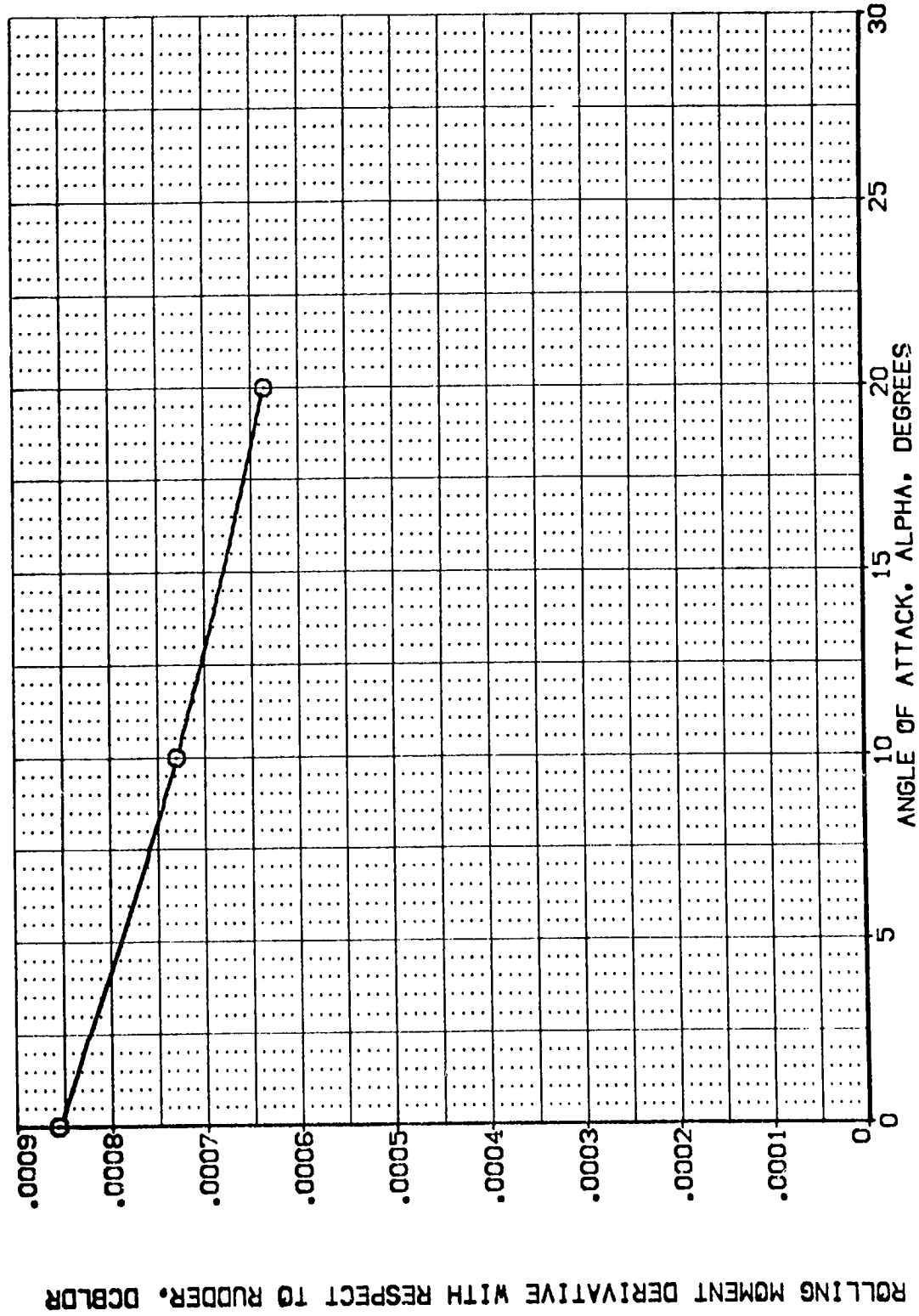
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SREF 2741.8000 SQ. FT
LREF 481.6480 IN.
BREF 536.7000 IN.
XPRP 1081.3500 IN.
YPRP .0000 IN.
ZPRP .0000 IN.
SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

(392041)

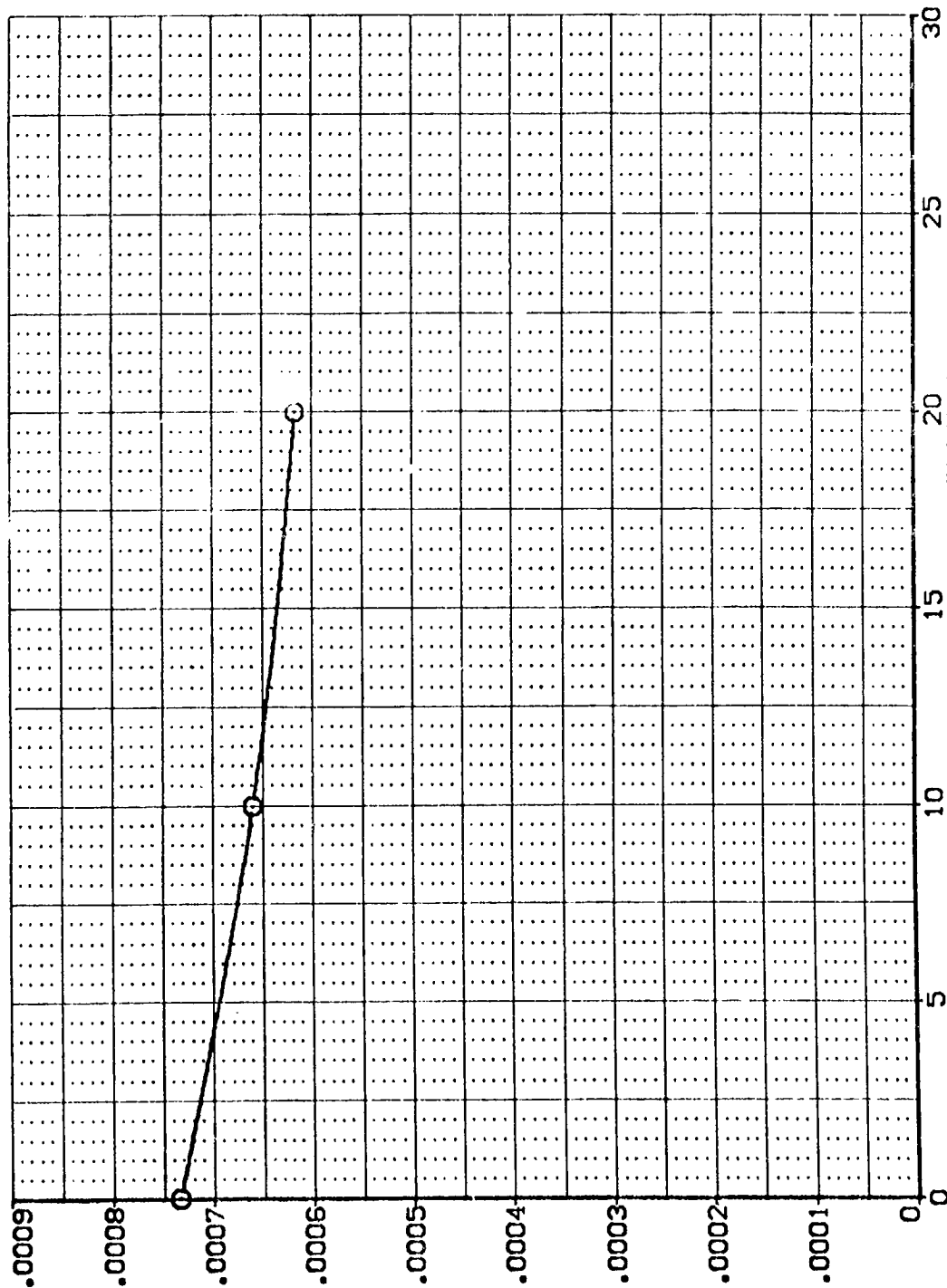
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SG.	FT
2741.8000	N.
481.5480	N.
936.7000	N.
1081.3900	N.
.0000	N.
.0000	N.
.0040	N.



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MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392041)

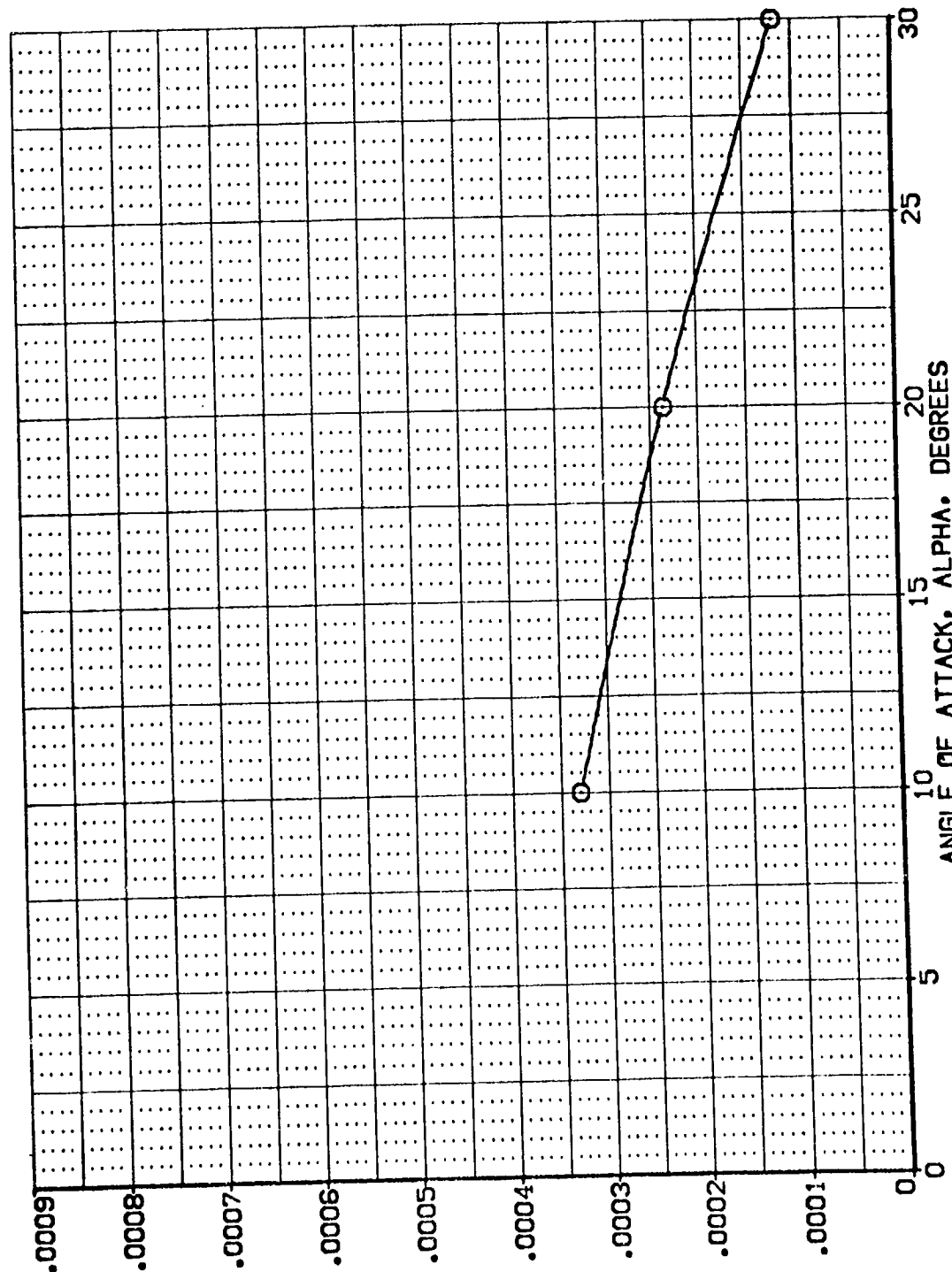
SYMBOL BETA .000 MACH 1.197 IELRJD -20.000 DATASET ALPHA .000 DATA SOURCE DATASET ALPHA 10.000 REFERENCE INFORMATION SQ. FT
 0 BOFLAP -11.700 SPDRK 25.550 392041 .000 392042 392044
 ELEVTR 4.160 AILRON -1.670 392043 20.000
 CONF18 1.000
 REF REF 274.6500
 REF 481.6480
 XREF 936.7000
 YREF 1081.3500
 ZREF .0000
 ZREF .0000
 SCALE .0040



RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392041)

SYMBOL BETA .000
 0
 REFERENCE INFORMATION
 2741.8000 90. FT
 481.6480
 936.7000
 1081.3500
 .0000
 .0000
 .0040
 SCALE
 DATA SOURCE
 ALPHA .000
 20.000
 DATASET
 392041
 392043
 392044
 PARAMETRIC VALUES
 DELTAD -20.000
 DELTAD 25.550
 DELTAD -6.70
 DELTAD 2.950
 DELTAD -11.700
 DELTAD 4.160
 DELTAD 1.000
 MACH
 BOFLAP
 ELEVTR
 CONFIG



RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392041)

SYMBOL BETA .000

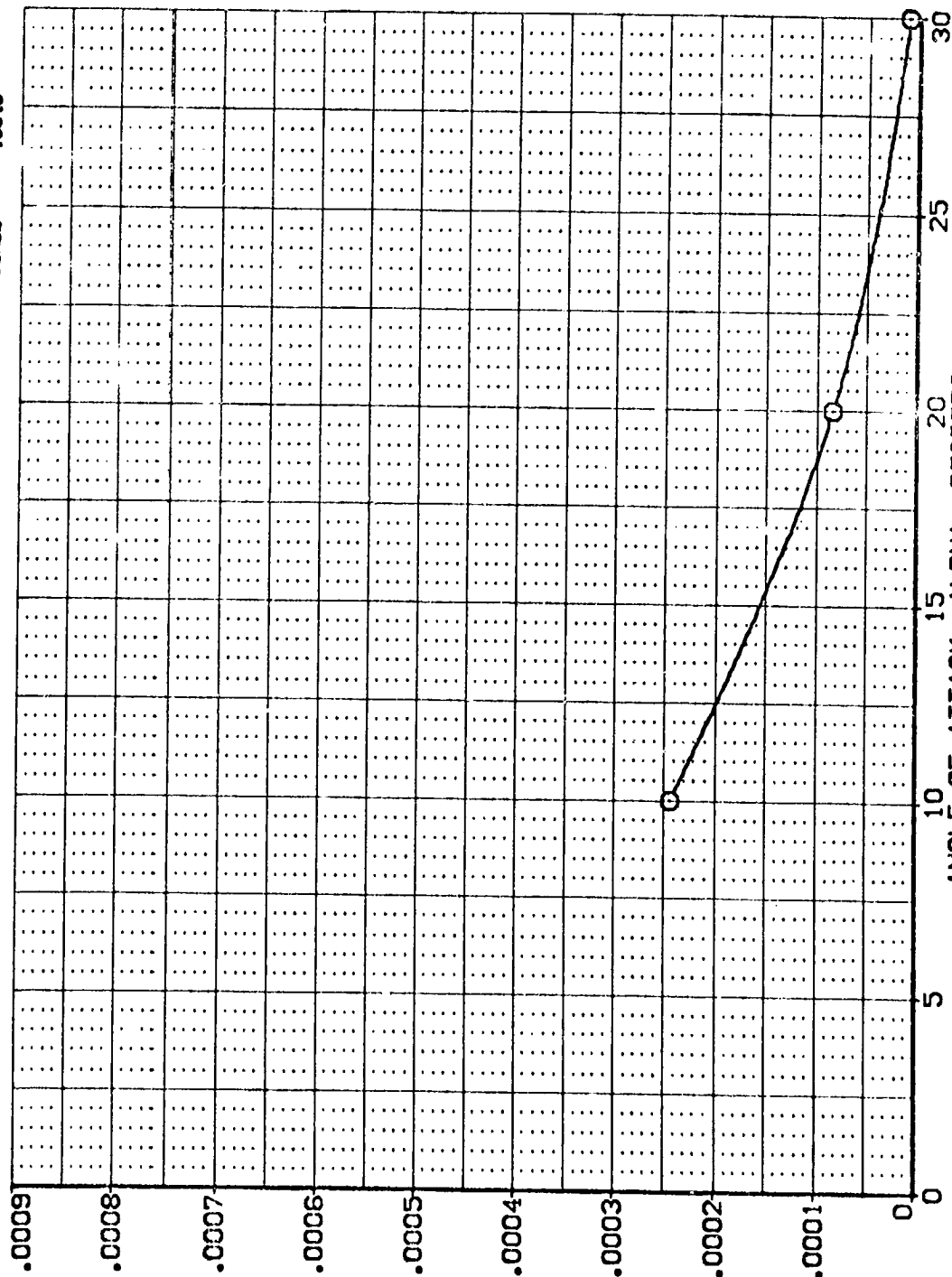
PARAMETRIC VALUES

MACH 4.959 DELRJD -20.000 DATASET 392041
BOFLAP -11.700 SPOBRK 25.550 392041
ELEVTR 4.160 AIRLEN -5.670 392043
CONFIG 1.000

DATA SOURCE
ALPHA .000
20.000

ALPHA 10.000
30.000

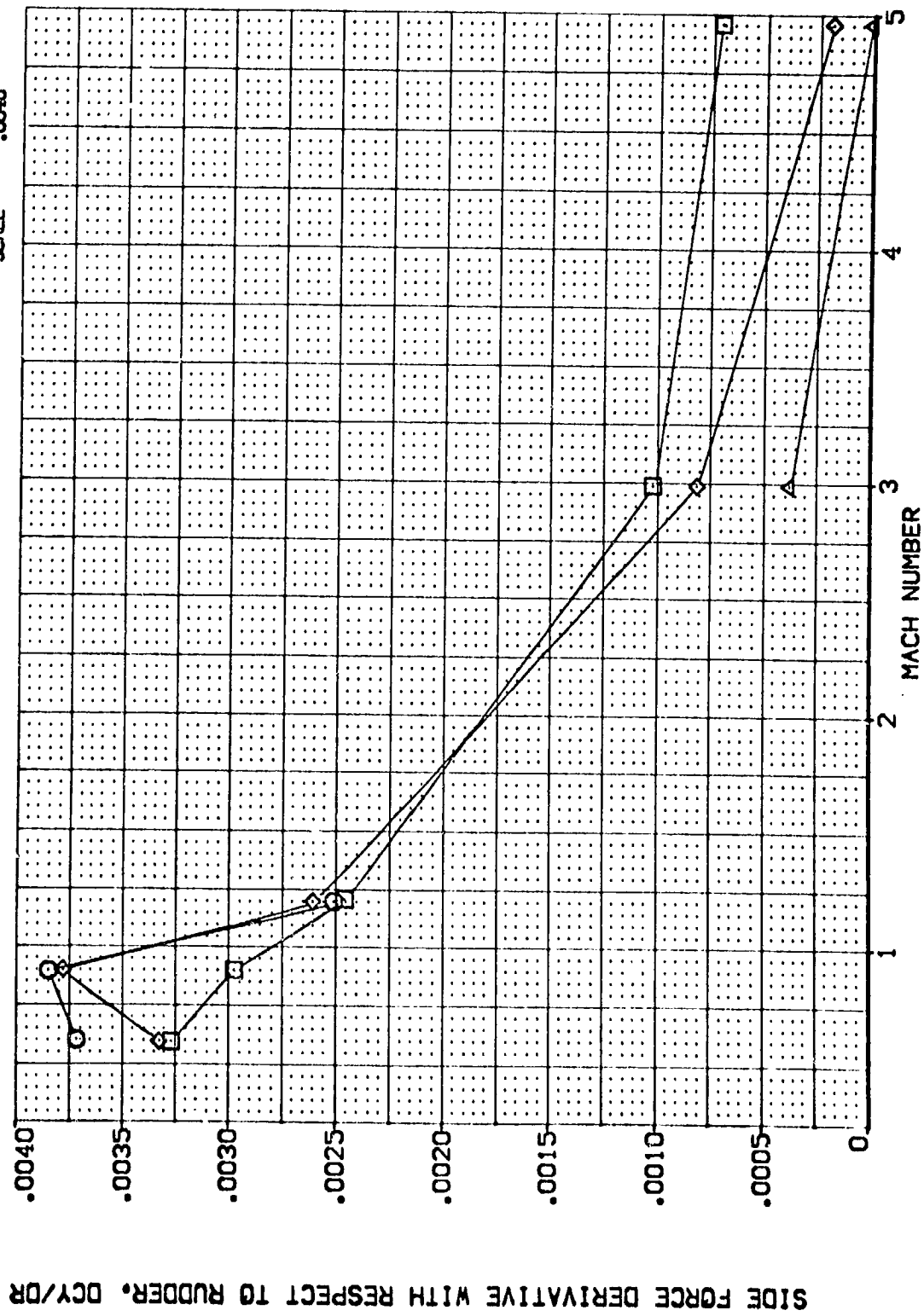
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LREF 491.6490 IN.
SREF 936.7000 IN.
XMRP 1081.3900 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0040



ANGLE OF ATTACK, ALPHA, DEGREES

RUDDER EFFECTIVENESS BETA SWEEP DATA

(392036)

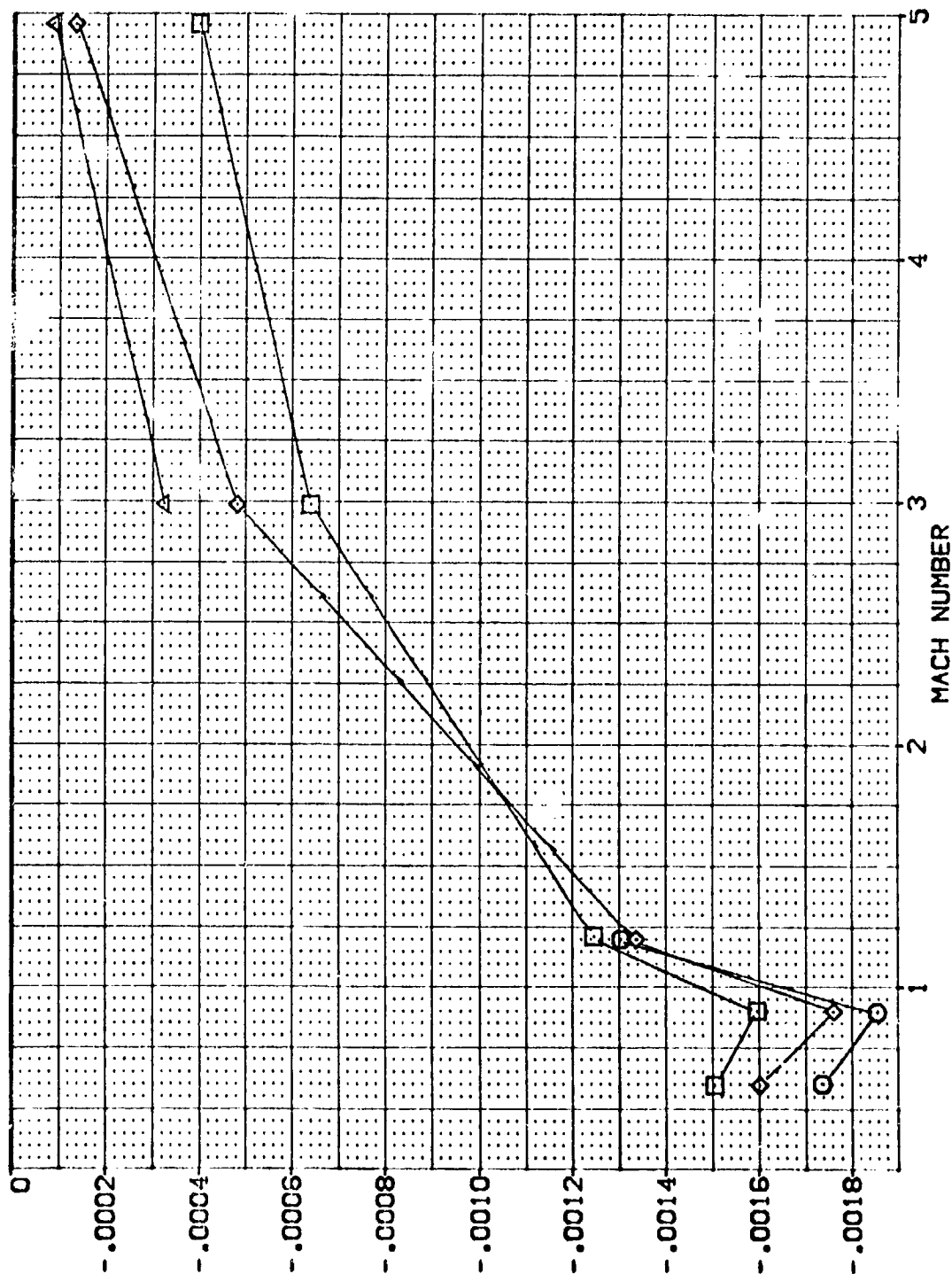
[illegible]

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MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392036)

SYMBOL	ALPHA	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
	BETA	DELTA	DELTA	DELTA	DELTA	ALPHA	ALPHA	SREF	SO	FT	
○	.000	.000	.000	.000	.000	20.000	392036	2741.8000	IN.	IN.	
□	10.000	-11.700	SPDRK	25.550	392036	20.000	392037	481.6490	IN.	IN.	
◇	20.000	4.160	ALLRN	-1.670	392038	20.000	392038	936.7000	IN.	IN.	
△	30.000	CONF1G	1.000			20.000	392039	1061.3900	IN.	IN.	
								YREF	IN.	IN.	
								ZREF	IN.	IN.	
								SCALE	IN.	IN.	

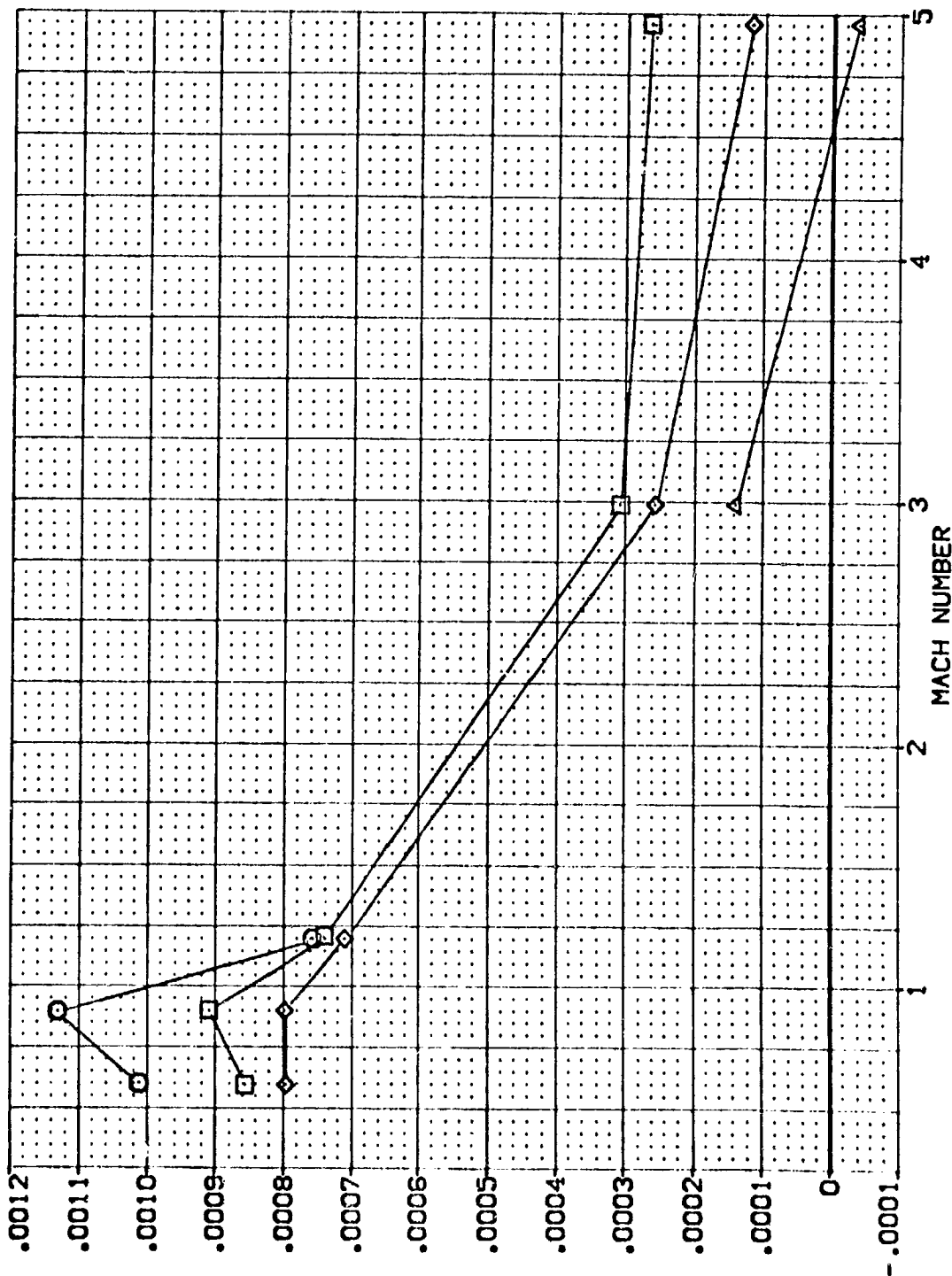
YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCYNDR



RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392036)

SYMBOL		ALPHA		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	BETA	.000	.000	DELTA	-10.000	DATASET	ALPHA	SREF	2741.8000
□	BDFLAP	10.000	-11.700	SPDRK	25.550	392037	10.000	LRFF	481.5480
◇	ELEVTR	20.000	4.160	AILRON	-1.670	392038	30.000	BRFF	936.7000
△	CONFIG	30.000	1.000					YPRP	1081.3500
								ZPRP	.0000
								SCALE	.0040



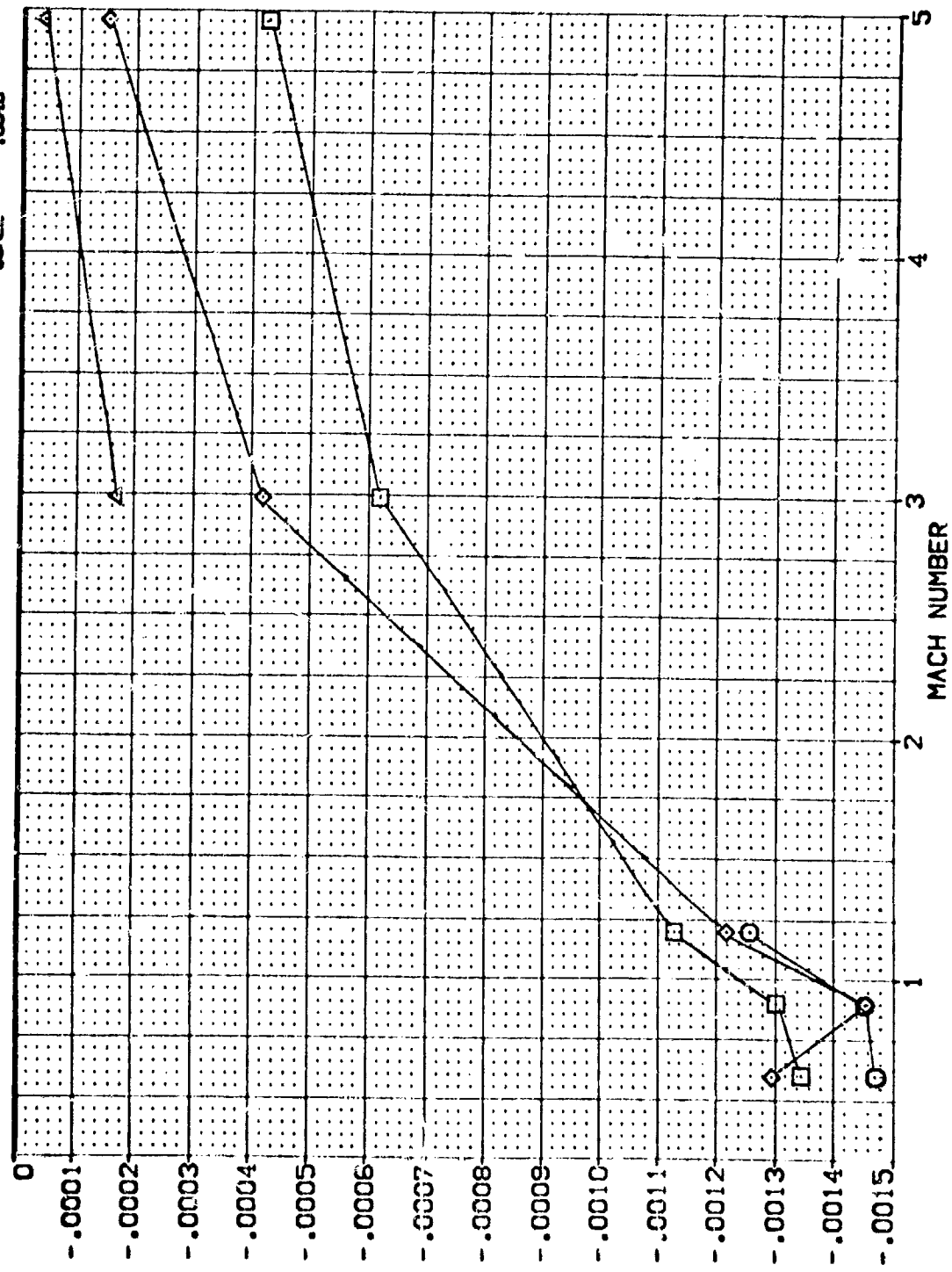
ROLLING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, DCBLDR

RUDDER EFFECTIVENESS BETA SWEEP DATA

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (392041)





SYMBOL	PARAMETRIC VALUES			DATA SOURCE		REFERENCE INFORMATION			
	ALPHA	BETA	DELTA	ALPHA	ALPHA	REF	REF	REF	REF
○	.300	.000	.000	-20.000	392041	2741.8000	481.6480	92. FT	
□	10.000	-11.700	SPTRK	25.950	392041	1081.3500	936.7000	IN.	
◇	20.000	4.160	AILRON	-.570	392043	1081.3500	936.7000	IN.	
△	30.000	CONFIG	1.000			1081.3500	936.7000	IN.	

YAWING MOMENT DERIVATIVE WITH RESPECT TO RUDDER, NCYNDR



RUDDER EFFECTIVENESS BETA SWEEP DATA

NSFC 5810A49 ORB 34-0 (BCFM)(WE)(VR) [392041]

ALPHA
0.000
10.000
20.000
30.000

BETA	.000
BDFLAP	-11.700
ELEVTR	4.160
CONFIG	1.000

PARAMETRIC VALUES	
DELTA D	.000
SPEED	11.700
AIRFLOW	4.160
	1.000

-20.000	DATASET
25.550	392041
-.670	392043

DATA SOURCE
LPH
20.000
20.000

DATASET
882042
882044

LFWA
10.000
30.000

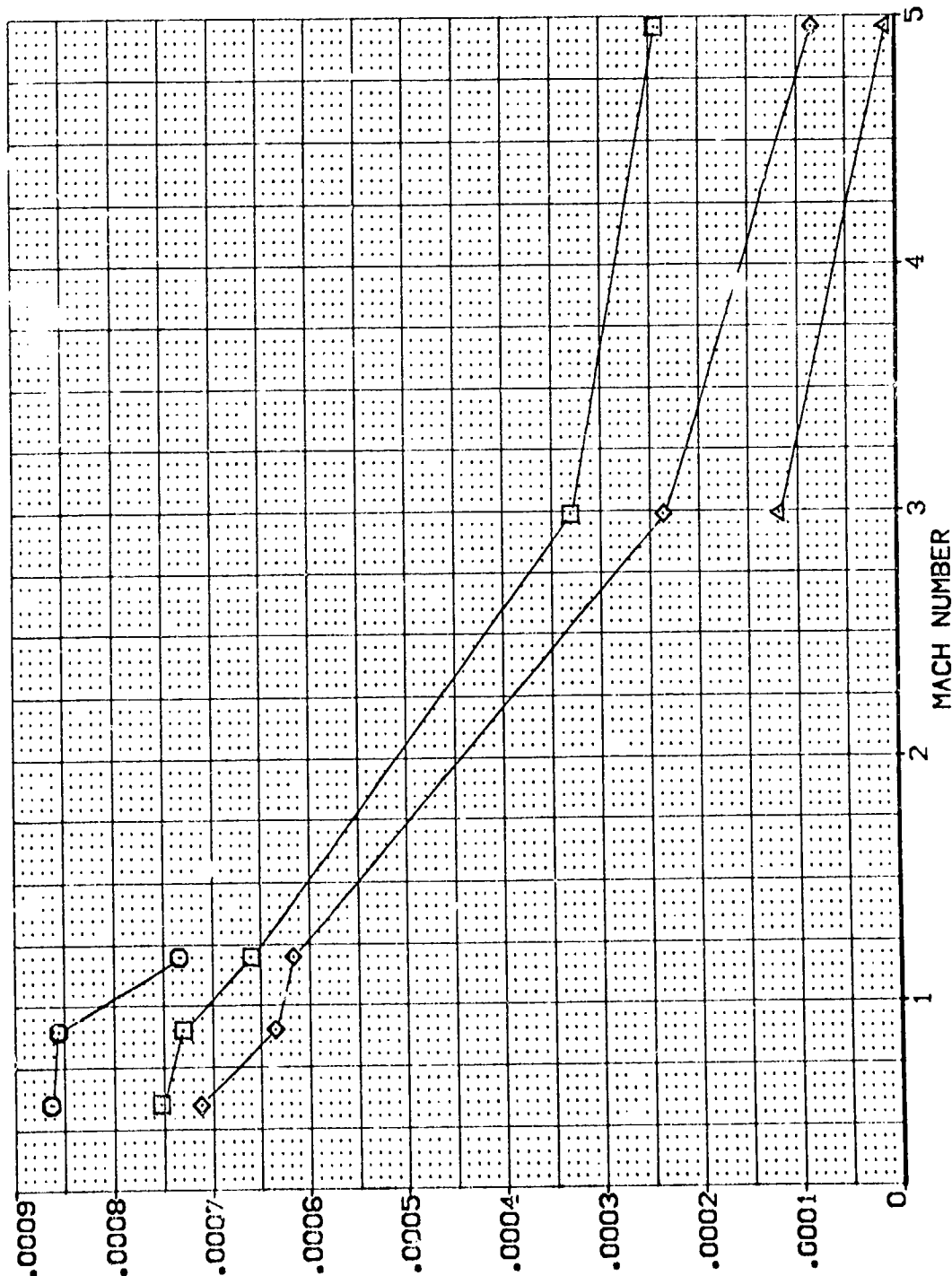
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EF	4	
EF	9	
EF	10	
RP		
RP		
RP		

CE INFO
8900
6480
7000
3300
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NOTATION
SQ. ZZZZZZ

gzzzzzz

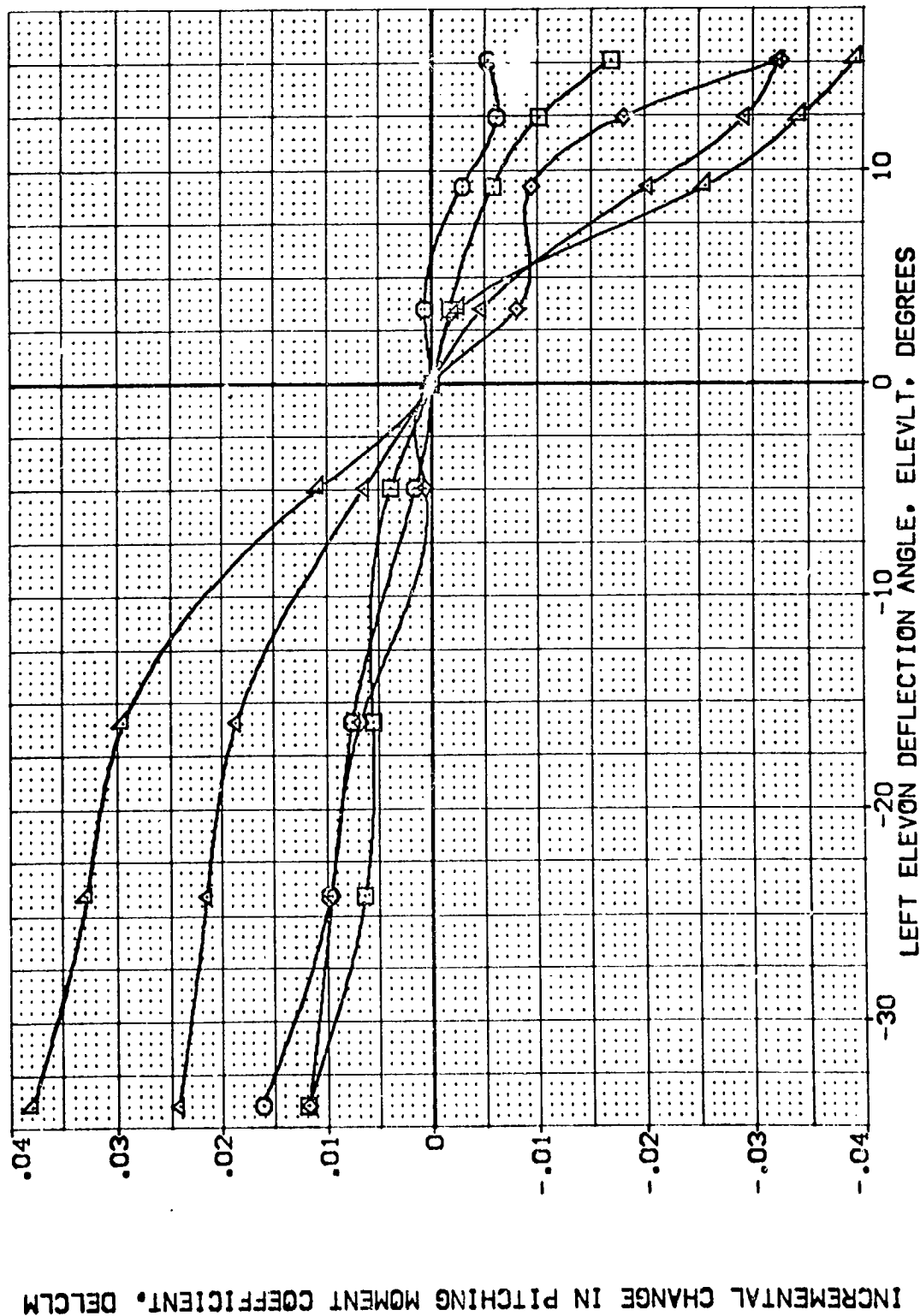
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RUDDER EFFECTIVENESS BETA SWEEP DATA

(F92146)

REFERENCE INFORMATION	SG. FT
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481.6480	IN.
936.7000	IN.
1081.3900	IN.
0.0000	IN.
0.0000	IN.
0.0040	IN.



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MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (F92146)

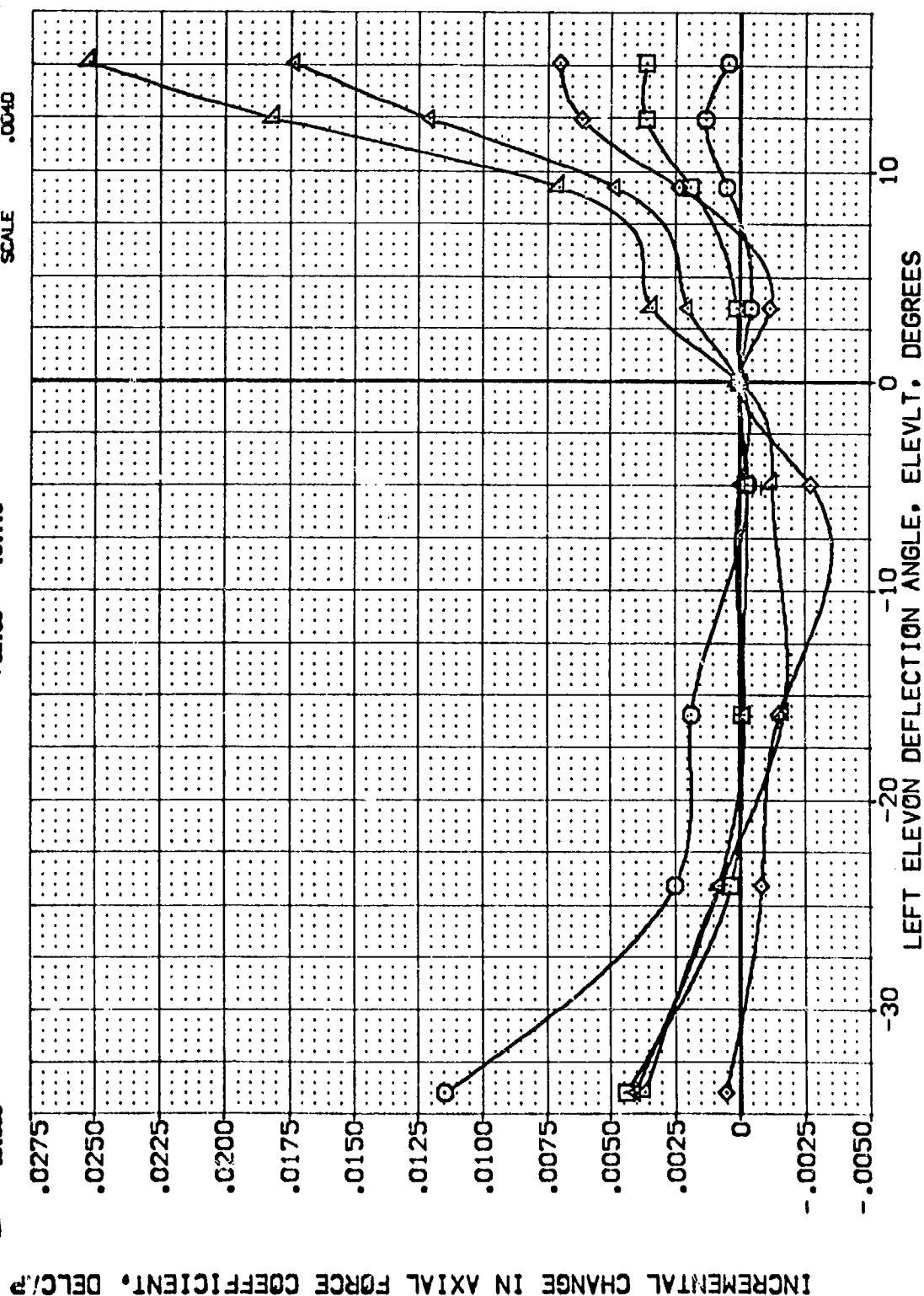
SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	ELEVLT	REFERENCE INFORMATION
○	.000		4.960	ELEVLT	F92145	-24.070	SREF 2741.8000
□	10.000	SPOERK	55.000	BOFLAP	F92145	-15.940	LREF 491.6450
◇	20.000	BETA	.000	RUDDER	F92143	1.940	BREF 925.7000
△	30.000	CONF16	1.000		F92144	3.450	XREF 1081.2000
	40.000				F92141	12.450	YREF .0000
					F92139	15.110	ZREF .0000
							SCALE .0040



LEFT ELEVON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (RCFM)(WE)(VR) (F92146)

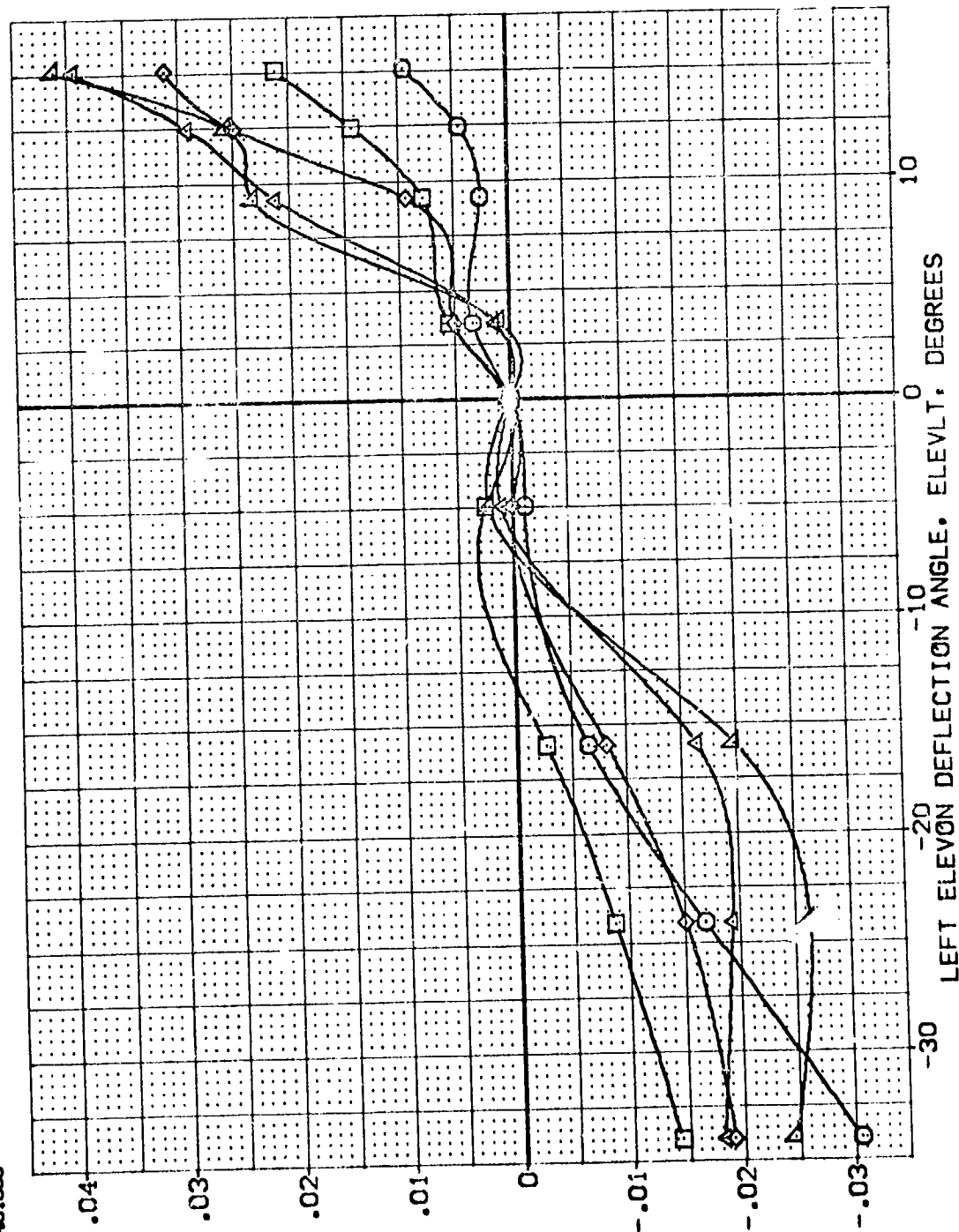
SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	ELEVLT	REF	ELEVLT	REF	REFERENCE INFORMATION
○	.000		4.950	4.820	F92146	-33.960	REF	-24.070	REF	2741.8000
□	10.000	SPDRK	95.000	-11.700	F92144	-15.940	REF	-4.940	REF	481.6480
◇	20.000	BETA	.000	.000	F92104	.000	REF	3.450	REF	936.7000
△	30.000	CONF16	1.000	.000	F92141	9.250	REF	12.480	REF	1081.3500
△	40.000				F92139	15.110	REF		REF	.0000
							SCALE			.0040



(F92146)

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

SYMBOL	ALPHA	MACH	SPDRK	BETA	CONF16	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	.000	4.950	55.000	.000	1.000	ELEVRT	ELEVLT	2741.8000
□	10.000	55.000	55.000	.000	1.000	BDFLAP	-24.070	481.6480
◇	20.000	55.000	55.000	.000	1.000	RUDDER	-4.940	936.7000
△	30.000	55.000	55.000	.000	1.000		3.490	1081.3900
▽	40.000	55.000	55.000	.000	1.000		12.480	.0000
							SCALE	.0040



LEFT ELEVON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR)

[F92146]

SMBL

ALPHA
10.000
20.000
30.000
40.000

**WACH
SPIDERX
BETA
CONF 18**

PARAMETER	4.960	55.000	.000	1.000
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: VALUES
ELEVRT
BOFLAP
RUDDER

4.820
-11.700
.000

TASET
2145
2144
2Y04
2141

TA SOURCE
EVL T
1.960
5.940
.000
1.250

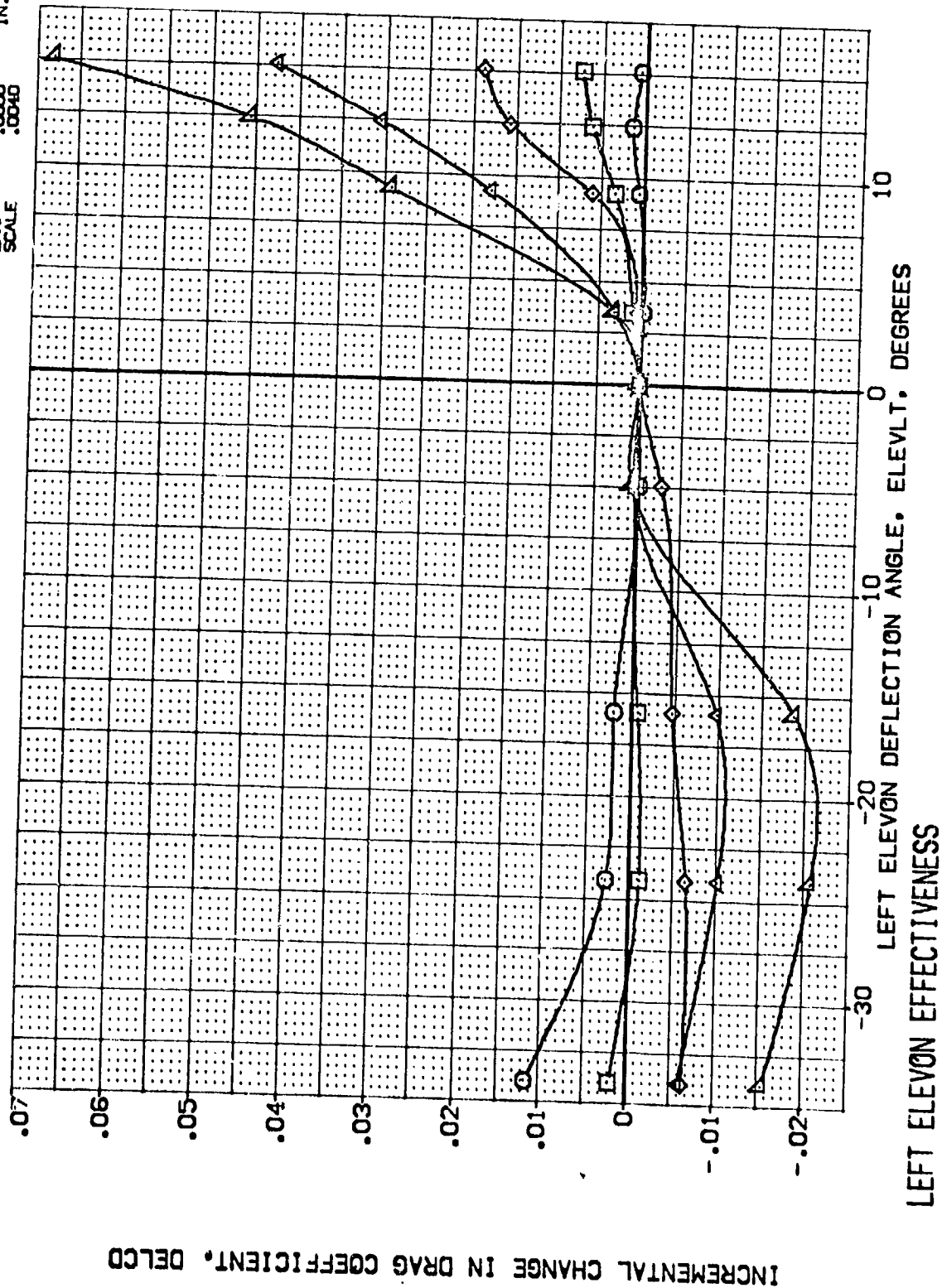
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F92143
F92004
F92140

LEVEL
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3.490
12.420

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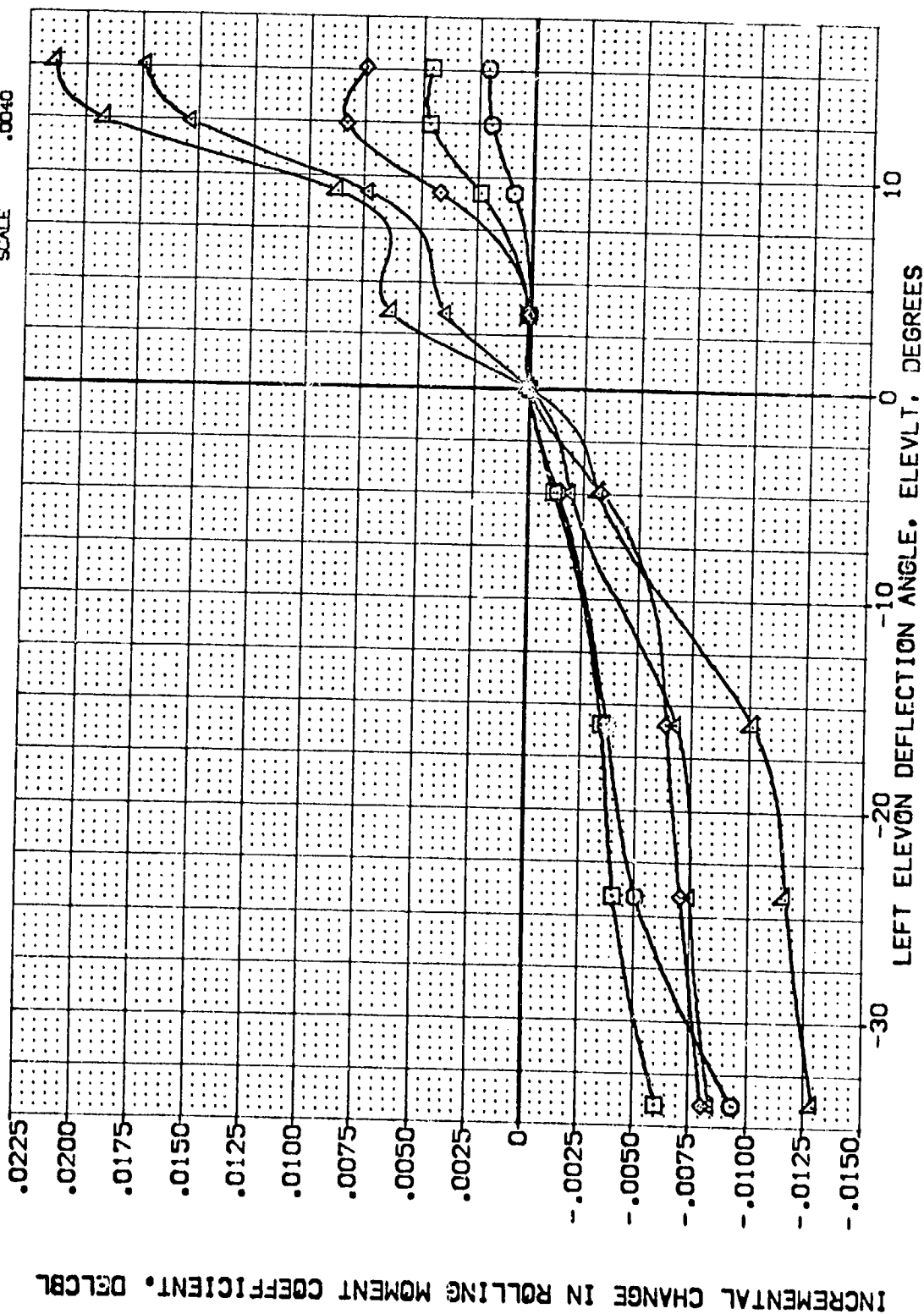
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PAGE 911

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (F92146)

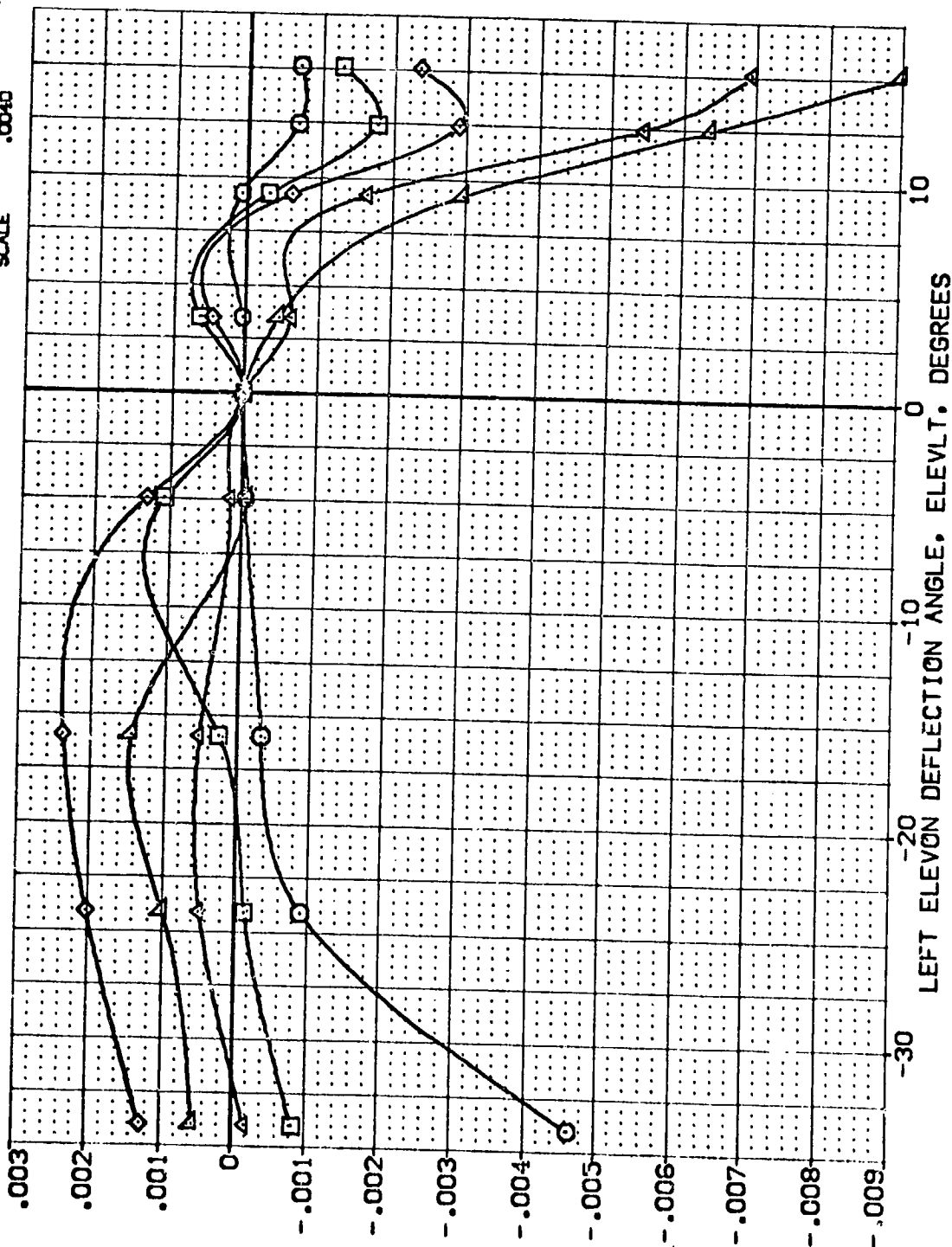
SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	.000	4.950	ELEVRT	ELEVLT	5REF 2741.8000
□	10.000	55.000	BOFLAP	F92145	LREF 481.6480
◇	20.000	.000	RUDDER	F92143	9REF 936.7000
△	30.000	1.000		F92140	XREF 1081.3500
▽	40.000			F92141	YREF .0000
				F92139	ZREF .0000
					SCALE .0040



MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (F92146)

ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
0.000	4.960	ELEVRT	ELEVLT	2741.8000
10.000	55.000	BDFLAP	-33.960	481.6480
20.000	.000	RUDDER	-15.940	936.7000
30.000	1.000		.000	1081.3800
40.000			9.250	.0000
			15.110	.0000
				.0040
				SCALE

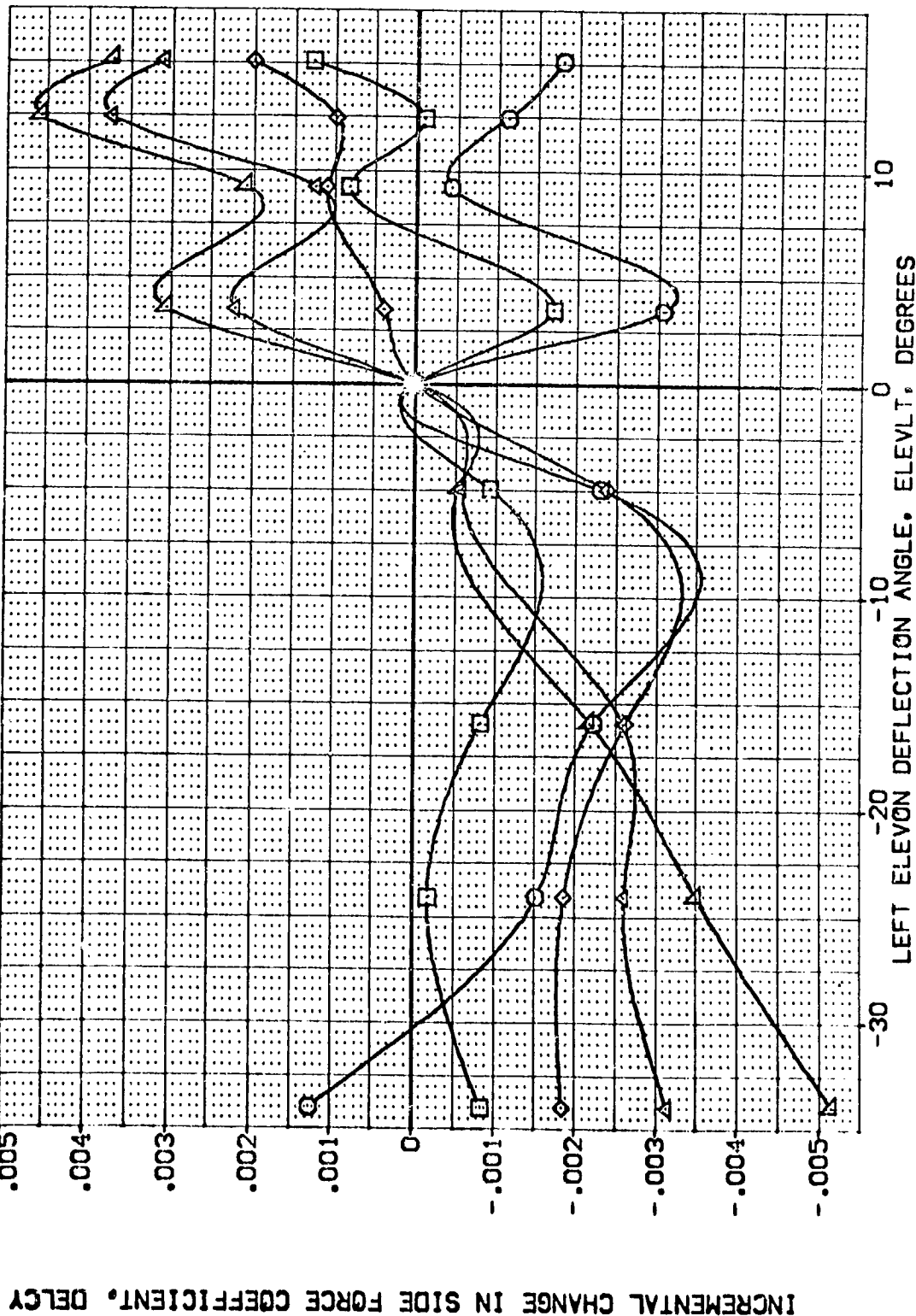
INCREMENTAL CHANGE IN YAWING MOMENT COEFFICIENT, DELCYN



LEFT ELEVON EFFECTIVENESS

MSFC 581(0A49) ORB 34-0 (BCFM)(WE)(VR) (F92146)

ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	ELEVLT	DATASET	ELEVLT	SREF	REFERENCE INFORMATION
.000	4.960	ELEVLT	4.820	F92146	-33.950	-24.070	2741.8000	50: FT
10.000	55.000	BOFLAP	-11.700	F92146	-15.940	-4.940	481.6480	IN:
20.000	.000	RUDER	.000	F92144	.000	3.450	936.7000	IN:
30.000	1.000			F92104	9.250	12.480	1081.3900	IN:
40.000				F92141	15.110		.0000	IN:
				F92139			.0040	IN:



APPENDIX
TABULATED SOURCE DATA

Tabulations of plotted data are available on request from
Data Management Services

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

PAGE 1

MSFC 581 (0A49) CRB 34-0 (BC) (W) (VR)

(R92001) (22 MAY 74)

REFERENCE DATA

SREF = 2741.6000 Sq. Ft. XMRP = 1091.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = -33.650
 AILRON = -.320 BDFLAP = -11.700
 SPBRK = 25.550 RUDDER = .000
 CONFIC = 1.000

PARAMETRIC DATA

RUN NO. 171/ 0 RV/L = 4.88 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.597	-.210	-.47505	.21506	-.00069	.00058	-.00088	.14569	.03973	-.47446	.14746
.597	1.790	-.37606	.21045	.00078	.00079	-.00039	.14511	.03846	-.38038	.13323
.597	3.880	-.27020	.20421	-.00157	.00224	-.00029	.14040	.03934	-.27913	.12176
.597	5.960	-.16581	.20210	-.00235	.00234	-.00020	.13461	.04307	-.17886	.11665
.597	8.080	-.05730	.19803	.00049	.00128	-.00029	.12421	.04395	-.07417	.11489
.597	10.190	-.06554	.18668	.00010	.00088	.00118	.11283	.04376	.04454	.12264
.597	12.290	.18200	.18686	.00020	.00059	.00206	.10154	.04376	.15609	.13794
.597	14.400	.29777	.18706	.00039	.00108	.00137	.09644	.03983	.26441	.16748
.597	16.510	.42207	.18286	.00059	.00128	.00226	.08771	.03483	.37969	.20407
.597	18.630	.55482	.17569	-.00010	.00098	.00216	.07918	.03316	.50027	.25224
.597	20.640	.67127	.17465	.00137	.00070	.00334	.07201	.03473	.60279	.30395
GRADIENT		.05059	-.00266	-.00022	.00041	.00014	-.00130	-.00009	.04777	-.00628

RUN NO. 172/ 0 RV/L = 6.16 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.894	-.380	-.46887	.22879	-.00294	.00066	-.00177	.19122	.03200	-.46760	.19436
.894	1.690	-.35791	.21828	-.00412	.00085	-.00206	.18523	.03053	-.36321	.17454
.894	3.870	-.23419	.20488	-.00412	.00124	-.00255	.17591	.03082	-.24557	.15972
.894	6.080	-.09016	.18696	-.00471	.00124	-.00255	.16904	.03249	-.10753	.15855
.894	8.290	.06299	.16591	-.00461	.00183	.00029	.15992	.04964	.03924	.16738
.894	10.510	.21535	.14571	-.00687	.00240	.00098	.15217	.04925	.18396	.18886
.894	12.710	.36046	.12916	-.00491	.00222	.00020	.14344	.04729	.32004	.21928
.894	14.910	.49556	.11943	-.00392	.00213	.00069	.13196	.04503	.44493	.25509
.894	17.100	.61389	.10800	-.00392	.00209	.00029	.12117	.04415	.57002	.30257
.894	19.300	.74260	.10751	-.00363	.00203	.00010	.11381	.04562	.66323	.35290
.894	21.560	.84974	.10739	-.00441	.00242	.00010	.10508	.04984	.75300	.40745
GRADIENT		.05523	-.00563	-.00027	.00014	-.00019	-.00361	-.00027	.03226	-.00814

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) ORB 34-0 (BCFN) (ME) (VR)

(R92001) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -33.650
 AILRON = -.320 BDPLAP = -11.700
 SPDRBK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 175/ 0 RN/L = 6.60 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.197	-1.500	-.39333	.24683	-.00078	.00107	-.00324	.26666	.06063	-.39195	.26873
1.197	1.850	-.24371	.21565	-.00285	.00125	-.00343	.25970	.05955	-.25195	.25175
1.197	4.080	-.09409	.18448	-.00324	.00203	-.00216	.24999	.06053	-.11165	.24263
1.197	6.350	.05141	.15856	-.00285	.00223	-.00108	.24135	.06191	.02453	.24547
1.197	8.570	.19249	.13790	-.00324	.00113	-.00019	.23262	.06230	.15560	.23882
1.197	10.810	.32789	.12371	-.00235	.00204	-.00010	.22683	.06250	.27932	.28432
1.197	13.060	.46504	.10714	.00029	.00138	-.00000	.22104	.06407	.40304	.32043
1.197	15.300	.60122	.09665	.00147	.00060	-.00049	.21545	.06583	.52303	.36644
1.197	17.550	.74672	.08755	.00147	.00011	-.00196	.19141	.06553	.65420	.40775
1.197	19.770	.86406	.05916	-.00029	.00137	-.00088	.18464	.06358	.75074	.46603
1.197	21.850	.95236	.06385	.00147	-.00018	-.00137	.18366	.06622	.81559	.52499
GRADIENT		.06830	-.01423	-.00056	.00022	.00025	-.00381	-.00002	.06398	-.00594

RUN NO. 286/ 0 RN/L = 6.47 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.458	-1.160	-.25450	.17003	-.00363	.00282	-.00265	.22585	.04366	-.25391	.22654
1.458	1.950	-.14020	.14757	-.00392	.00330	-.00167	.21790	.04435	-.14746	.21300
1.458	4.130	-.02090	.12366	-.00461	.00359	-.00108	.20711	.04503	-.03581	.20505
1.458	6.340	.10037	.10199	-.00451	.00359	-.00049	.19633	.04562	.07770	.20593
1.458	8.540	.21241	.08521	-.00736	.00445	-.00059	.18739	.04533	.18219	.21682
1.458	10.750	.32671	.07550	-.00726	.00396	-.00059	.18200	.04675	.28697	.23978
1.458	12.950	.43502	.05966	-.00394	.00223	-.00069	.18131	.05004	.38332	.27422
1.458	15.170	.54903	.04650	-.00039	.00069	-.00118	.16954	.05004	.48555	.30728
1.458	17.380	.66136	.03580	-.00304	.00154	-.00069	.16129	.04925	.58297	.35163
1.458	19.590	.76566	.03273	-.00177	.00136	-.00098	.15727	.05072	.66853	.40490
1.458	21.690	.86750	.02816	-.00147	.00097	-.00088	.15040	.05102	.75045	.46053
GRADIENT		.03445	-.01081	-.00023	.00018	.00037	-.00437	.00032	.05584	-.00500

DATE 16 JUL 74

TABULATED SOURCE DATA - 0449

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(R92001) (22 MAY 74)

NSFC 561 (0449) OFB 34-0 (SCFM) (NE) (NR)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7050 IN.
 SCALE = .0040

BETA = .000
 AILRON = -.320
 SPDRK = 25.550
 CONFIG = 1.000
 ELEVTR = -33.650
 BDFLAP = -11.700
 RUDDER = .000

PARAMETRIC DATA

RUN NO. 299/ 0 RW/L = 7.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.952	-1.150	-1.1758	.05591	-.00206	.00293	-.00167	.17729	.02855	-.17709	.17778
1.952	1.920	-.08938	.03291	-.00226	.00302	-.00186	.16895	.02845	-.09497	.16591
1.952	4.150	.00196	.06996	-.00275	.00272	-.00157	.16100	.02914	-.00942	.16071
1.952	6.270	.08987	.05975	-.00294	.00282	-.00128	.15501	.03012	.07231	.16394
1.952	8.450	.17385	.08200	-.00363	.00291	-.00108	.14766	.03022	.15021	.17160
1.952	10.620	.25676	.04762	-.00343	.00282	-.00069	.14363	.03140	.22585	.18857
1.952	12.800	.34456	.04612	-.00373	.00281	-.00069	.14177	.03198	.30463	.21467
1.952	15.010	.43669	.04073	-.00363	.00282	-.00078	.13588	.03322	.38656	.24439
1.952	17.220	.53117	.03604	-.00196	.00155	-.00098	.12931	.03444	.46907	.28079
1.952	19.390	.62202	.03034	-.00216	.00145	-.00088	.12303	.03532	.54589	.32269
1.952	21.500	.70816	.02610	-.00108	.00068	-.00088	.11665	.03610	.61614	.36811
GRADIENT		.04224	-.00611	-.00016	-.00005	.00002	-.00393	.00014	.03945	-.00400

RUN NO. 8/ 0 RW/L = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-1.080	-1.11489	.03385	-.00069	.00196	-.00078	.13323	.01717	-.11469	.13333
2.990	1.940	-.05661	.03314	-.00088	.00225	-.00069	.12823	.01707	-.06093	.12617
2.990	4.000	.00598	.03027	-.00108	.00166	-.00069	.12195	.01727	-.00245	.12215
2.990	6.070	.06573	.02958	-.00088	.00225	-.00049	.11567	.01766	.00308	.12195
2.990	8.140	.12980	.02790	-.00098	.00225	-.00049	.11283	.01844	.11243	.13009
2.990	10.210	.19190	.02763	-.00118	.00234	-.00029	.10900	.01805	.16954	.14128
2.990	12.280	.25657	.02807	-.00110	.00177	-.00039	.10429	.01756	.22801	.15639
2.990	14.360	.32220	.02971	-.00090	.00167	-.00039	.10105	.01609	.28697	.17787
2.990	16.440	.39195	.02957	-.00049	.00138	-.00029	.09713	.01599	.34839	.20417
2.990	18.540	.46455	.02869	.00069	.00128	-.00029	.09428	.01697	.41040	.23713
2.990	20.500	.53421	.02758	.00088	.00109	-.00010	.09173	.01746	.46328	.27304
GRADIENT		.02977	-.00039	-.00010	-.00007	.00002	-.00278	.00002	.02765	-.00275

DATE 16 JUL 74

TABULATED SOURCE DATA - OM49

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NSFC 581 (OM49) ORB 34-0 (BCFM) (WE) (VR)

(R92001) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT DARP = 1031.3900 IN.
 LREF = 481.6480 IN. THRP = .0000 IN.
 BREF = 936.7000 IN. ZREF = .0000 IN.
 SCALE = .0042

PARAMETRIC DATA

BETA = .000 ELEVTR = -33.650
 ALLEON = -.320 BCDLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 9/ 0 RN/L = 6.25 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.000	-0.060	-1.0773	.01907	-.00128	.00126	-.00088	.11646	.00981	-.10763	.11665
4.000	1.920	-.05720	.01785	-.00108	.00146	-.00069	.11126	.00981	-.06093	.10920
4.000	3.980	-.05677	.01798	-.00088	.00175	-.00039	.10674	.00991	-.01423	.10606
4.000	6.030	.04837	.01857	-.00053	.00146	-.00029	.10066	.00991	.03758	.10517
4.000	8.140	.10321	.01867	-.00157	.00195	-.00020	.09884	.01001	.08840	.11047
4.000	10.180	.15845	.01946	-.00108	.00146	-.00029	.09311	.00981	.13951	.11970
4.000	12.260	.21702	.02126	-.00118	.00137	-.00039	.09036	.00991	.19289	.13441
4.000	14.340	.27873	.02399	-.00049	.00099	-.00039	.08820	.00971	.24822	.15452
4.000	16.470	.34349	.02405	.00098	.00069	-.00039	.08447	.00922	.30552	.17817
4.000	18.520	.40641	.02618	.00098	.00040	-.00039	.08163	.00912	.36262	.20760
4.000	20.495	.47711	.02696	.00147	.00012	-.00039	.08335	.00912	.41883	.24233
GRADIENT		.02499	-.00027	.00010	.00012	.00012	-.00240	.00002	.02312	-.00262

RUN NO. 10/ 0 RN/L = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-0.020	-.09948	.00741	-.00108	.00195	-.00078	.10616	.00491	-.09939	.10625
4.959	1.940	-.05376	.00891	.00559	.00167	.00000	.10027	.00520	-.05710	.09841
4.959	3.970	-.05746	.01062	-.00147	.00224	-.00039	.09487	.00530	-.01403	.09409
4.959	5.990	.04297	.01057	.00029	.00187	.00000	.08889	.00540	.03346	.09291
4.959	8.060	.09291	.01038	.00010	.00137	-.00020	.08438	.00530	.08015	.09654
4.959	10.070	.14206	.01194	.00000	.00157	-.00029	.08143	.00520	.12552	.10508
4.959	12.110	.19936	.00705	.00000	.00157	-.00049	.07976	.00530	.17817	.11979
4.959	14.150	.25646	.01551	.00108	.00158	-.00049	.07702	.00530	.22987	.13736
4.959	16.190	.31749	.01764	.00020	.00118	-.00059	.07447	.00520	.28403	.16352
4.959	18.240	.38312	.01801	.00000	.00078	-.00098	.07250	.00510	.34113	.18886
4.959	20.130	.44680	.02106	.00049	.00078	-.00078	.07299	.00520	.39401	.22261
GRADIENT		.02356	.00080	-.00010	.00007	.00010	-.00283	.00010	.02139	-.00304

NSFC 561 (0A49) ORB 34-0 (BCFM) (NE) (NR)

(R92002) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 491.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -15.550
 AILRON = -.400 BDFLAP = -11.700
 SPDPRK = 25.550 RUDDER = .000
 CONFIC = 1.000

RUN NO. 170/ 0 RN/L = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.597	-1.140	-3.6546	.18073	.00118	-.00009	-.00147	.08889	.02463	-.36527	.08977
.597	1.870	-.25901	.17382	.00216	-.00077	-.00559	.08820	.02551	-.26176	.07976
.597	3.960	-.16237	.17372	.00186	-.00008	-.00471	.08536	.02580	-.16787	.07398
.597	6.050	-.06083	.17196	.00157	-.00058	-.00373	.07770	.02580	-.06868	.07084
.597	8.130	-.04366	.16976	.00216	-.00077	-.00226	.06779	.02561	.03365	.07329
.597	10.250	.15138	.16799	.00314	-.00096	-.00010	.05955	.02551	.13834	.08555
.597	12.360	.26568	.16721	.00422	-.00163	-.00020	.05386	.02600	.24793	.10949
.597	14.450	.36713	.16815	.00216	-.00067	-.00078	.05023	.02639	.34300	.14030
.597	16.560	.47586	.16695	.00196	-.00002	-.00069	.04778	.02747	.44631	.18258
.597	18.640	.59583	.16803	.00078	.00060	-.00088	.04317	.02943	.55070	.23144
.597	20.660	.70208	.16924	-.00275	.00057	-.00059	.03924	.03189	.64302	.28452
GRADIENT		.04951	-.00170	.00017	.00000	-.00078	-.00086	.00029	.04812	-.00385

RUN NO. 169/ 0 RN/L = 6.17 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.898	-.220	-.33652	.18883	.00137	-.00077	-.00285	.11763	.03522	-.33603	.11901
.898	1.870	-.21369	.17745	.00255	-.00037	-.00402	.11528	.03404	-.21741	.10822
.898	4.060	-.07152	.15370	.00198	.00001	-.00540	.10674	.03365	-.07898	.10145
.898	6.270	.07898	.12825	.00000	.00020	-.00285	.10007	.03346	.06760	.10812
.898	8.460	.21221	.11297	-.00039	.00049	-.00088	.09654	.03306	.19573	.12676
.898	10.690	.34201	.10034	-.00285	.00086	-.00049	.09517	.03287	.31857	.15678
.898	12.850	.47123	.08325	-.00255	.00047	-.00039	.09301	.03257	.43885	.19544
.898	15.000	.58356	.07770	.00157	-.00087	-.00147	.09517	.03561	.53902	.24312
.898	17.160	.67873	.08241	.00157	-.00018	-.00108	.09301	.03718	.62104	.28913
.898	19.320	.76899	.09052	.00029	.00030	-.00177	.09281	.04130	.69492	.34201
.898	21.340	.83110	.11337	-.00137	-.00050	-.00206	.09644	.04700	.73897	.39234
GRADIENT		.06194	-.00823	-.00007	.00018	-.00060	-.00256	-.00037	.06008	-.00410

MSFC 581 (0449) CRB 34-0 (BCFN) (NE) (VR)

(R92002) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 AIRLON = -.400
 SPDRK = 25.500
 CONFIG = 1.000

PARAMETRIC DATA

ELEVTR = -15.550
 BDPLAP = -11.700
 RUDDER = .000

RUN NO. 168/ 0 RN/L = 6.34 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.196	-0.070	-21879	.17572	.00334	-.00056	-.00549	.19436	.04935	-.21849	.19465
1.196	2.040	-.08997	.15108	.00245	-.00018	-.00520	.19396	.05033	-.09684	.19063
1.196	4.260	.04621	.12521	.00235	-.00008	-.00412	.18984	.05023	.03189	.19269
1.196	6.480	.17493	.10580	.00128	.00030	-.00275	.18612	.05092	.15286	.20456
1.196	8.710	.30542	.08921	.00069	.00069	-.00069	.18072	.05210	.27451	.22487
1.196	10.950	.43561	.07408	.00039	.00039	-.00039	.17591	.05337	.39421	.25548
1.196	13.180	.56865	.05657	.00324	-.00046	-.00167	.17081	.05494	.51479	.29580
1.196	15.400	.69727	.04053	.00167	-.00031	-.00186	.16483	.05710	.62840	.34417
1.196	17.620	.81609	.02686	.00029	.00069	-.00167	.15708	.05877	.73024	.39686
1.196	19.820	.91792	.02597	-.00078	.00137	-.00137	.15433	.06122	.81118	.45651
1.196	21.950	1.00642	.03096	-.00334	.00184	-.00128	.15119	.06348	.87731	.51577
GRADIENT		.06120	-.01167	-.00023	.00011	.00032	-.00105	.00020	.05783	-.00044

RUN NO. 285/ 0 RN/L = 6.47 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.459	-0.020	-14520	.11964	-.00108	.00127	-.00402	.17356	.03856	-.14511	.17366
1.459	2.060	-.04023	.10275	-.00049	.00078	-.00412	.17061	.03836	-.04631	.16904
1.459	4.250	.06917	.08341	-.00128	.00126	-.00363	.16434	.03973	.05681	.16904
1.459	6.430	.17954	.06718	-.00206	.00155	-.00255	.15796	.03993	.16080	.17709
1.459	8.650	.28845	.05325	-.00275	.00174	-.00186	.15246	.03836	.26225	.19416
1.459	10.850	.39892	.03829	-.00285	.00145	-.00128	.14766	.03954	.36399	.22006
1.459	13.050	.51067	.02576	-.00285	.00174	-.00108	.14206	.04101	.46534	.25381
1.459	15.250	.61466	.01475	-.00245	.00165	-.00088	.13647	.04091	.53717	.29345
1.459	17.450	.71756	.00836	-.00206	.00145	-.00137	.13078	.04366	.64527	.34005
1.459	19.650	.81932	.00360	-.00128	.00097	-.00177	.12617	.04749	.72916	.39450
1.459	21.740	.91577	-.00008	-.00058	.00058	-.00177	.12372	.04984	.80470	.45425
GRADIENT		.05020	-.00849	-.00005	.00000	.00029	-.00217	.00028	.04728	-.00107

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581 (0A49) CRB 34-0 (BCFM) (WE) (VR)

(R92D02) (22 MAY 74)

REFERENCE DATA

SREF = 2741.6000 SQ. FT
 LREF = 481.6485 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

WPRP = 1081.3900 IN.
 YMRP = .0000 IN.
 ZMRP = .0000 IN.

BETA = .000 ELEVTR = -15.550
 AIRLON = -.400 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONF16 = 1.000

PARAMETRIC DATA

RUN NO. 298/ 0 RNVL = 7.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.948	-0.40	-11155	.07056	-.00147	.00205	-.00245	.14491	.02433	-.11145	.14501
1.948	2.000	-.03051	.05851	-.00186	.00205	-.00235	.14020	.02521	-.03342	.13902
1.948	4.170	.05445	.04787	-.00265	.00253	-.00216	.13608	.02669	.04444	.13971
1.948	6.350	.13922	.03897	-.00265	.00243	-.00167	.13284	.02600	.12362	.14746
1.948	8.520	.22330	.03123	-.00304	.00262	-.00147	.12764	.02590	.20191	.15933
1.948	10.690	.30512	.02586	-.00314	.00233	-.00128	.12126	.02590	.27726	.17581
1.948	12.880	.39578	.02402	-.00334	.00213	-.00118	.11852	.02718	.35938	.20378
1.948	15.090	.48447	.02060	-.00304	.00184	-.00118	.11499	.02914	.43777	.23713
1.948	17.300	.57964	.01631	-.00245	.00175	-.00118	.11077	.03130	.52048	.27814
1.948	19.450	.66342	.01272	-.00216	.00136	-.00128	.10429	.03130	.59072	.31935
1.948	21.550	.74525	.00793	-.00137	.00068	-.00118	.09860	.03316	.65695	.36546
GRADIENT		.03943	-.00558	-.00028	.00012	.00007	-.00210	.00056	.03703	-.00124

RUN NO. 12/ 0 RNVL = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-0.50	-.07515	.01718	-.00157	.00205	-.00118	.11400	.01697	-.07505	.11410
2.990	1.960	-.02149	.01716	-.00167	.00224	-.00108	.11106	.01727	-.02531	.11018
2.990	4.030	.03679	.01693	-.00186	.00234	-.00098	.10635	.01727	.02914	.10871
2.990	6.070	.09252	.01685	-.00167	.00214	-.00098	.10164	.01678	.08124	.11087
2.990	8.160	.15374	.01687	-.00137	.00215	-.00098	.09762	.01648	.13824	.11842
2.990	10.230	.21339	.01685	-.00157	.00185	-.00118	.09409	.01619	.19328	.13049
2.990	12.300	.27667	.01834	-.00137	.00175	-.00118	.09046	.01550	.25107	.14726
2.990	14.370	.34162	.01977	-.00039	.00157	-.00118	.08771	.01560	.30915	.16973
2.990	16.450	.40843	.02016	-.00059	.00166	-.00118	.08585	.01599	.36742	.19799
2.990	18.550	.47927	.02052	.00029	.00138	-.00128	.08330	.01619	.42776	.23144
2.990	20.500	.54736	.00909	.00020	.00108	-.00128	.08094	.01688	.48437	.26755
GRADIENT		.02744	-.00006	-.00007	.00007	.00005	-.00188	.00007	.02554	-.00132

MSFC 581 (0A49) CRB 34-0 (BCFM) (WE) (NR)

(R92002) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -15.550
 AILTRON = -.400 BDFLAP = -11.700
 SPDBRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 11/ 0 RV/L = 4.88 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.060	-.06907	-.00913	.00147	.00276	-.00069	.08850	.00491	-.06917	.08650
4.959	1.950	-.03110	-.00582	.00265	.00257	-.00029	.08926	.00530	-.03404	.08408
4.959	3.980	.01403	-.00587	.00118	.00207	-.00059	.08251	.00491	.00834	.08330
4.959	5.990	.00975	-.00088	.00098	.00236	-.00020	.07868	.00510	.00121	.08457
4.959	8.060	.00802	-.00040	.00088	.00197	-.00059	.07574	.00491	.00634	.09016
4.959	10.070	.01476	.00381	.00147	.00227	-.00078	.07456	.00471	.03216	.09929
4.959	12.120	.02966	.00693	.00186	.00198	-.00088	.07319	.00549	.08965	.11557
4.959	14.150	.06441	.00896	.00177	.00119	-.00098	.07064	.00500	.03900	.13314
4.959	16.180	.03494	.01157	.00157	.00129	-.00128	.06936	.00530	.02966	.15717
4.959	18.260	.03916	.01428	.00206	.00119	-.00137	.06789	.00520	.03545	.18720
4.959	20.180	.04520	.01612	.00196	.00119	-.00167	.06760	.00491	.00098	.21947
GRADIENT		.02121	.00082	-.00008	-.00018	.00002	-.00152	-.00000	.01979	-.00131



DATE 18 JUL 74

TABULATED SOURCE DATA - ON 49

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MSFC 581(ON49) ORB 34-0 (BCFM) (NE) (NR)

(R92003) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT YMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -4.310
 AILRON = -.630 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 165/ 0 RN/L = 4.75 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.595	-.040	-.24027	.12422	-.00746	.00308	-.00304	-.06289	.02551	-.24027	.06309
.595	1.930	-.14736	.12338	-.00814	.00307	-.00245	-.06299	.02571	-.14942	.05798
.595	4.030	-.04876	.12215	-.01079	.00344	-.00245	-.05847	.02600	-.05278	.05494
.595	6.100	.00004	.12169	-.00863	.00336	-.00245	-.05249	.02639	.04415	.05749
.595	8.220	.10080	.11834	-.00755	.00229	-.00226	-.04268	.02600	.15305	.06524
.595	10.320	.27118	.11439	-.00589	.00211	-.00226	-.03889	.02845	.26009	.08496
.595	12.420	.38440	.10672	-.00559	.00133	-.00324	-.03355	.02953	.36821	.11548
.595	14.520	.50203	.10241	-.00765	.00229	-.00402	-.03336	.03120	.47760	.15815
.595	16.640	.64351	.08948	-.00785	.00308	-.00294	-.03081	.03512	.60770	.21398
.595	18.770	.78361	.07866	-.01109	.00324	-.00010	-.02659	.03836	.73336	.27736
.595	20.790	.91743	.06978	-.01089	.00364	-.00167	-.02306	.04042	.84944	.34721
GRADIENT		.04705	-.00051	-.00082	.00009	.00014	-.00110	.00012	.04607	-.00199

RUN NO. 166/ 0 RN/L = 6.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.897	-.080	-.19308	.12207	.00078	.00069	-.00245	-.08075	.02610	-.19298	.08104
.897	2.010	-.07290	.11170	.00157	.00080	-.00451	.07986	.02453	-.07564	.07721
.897	4.190	.05533	.09905	-.00137	.00146	-.00471	.07682	.02463	.04955	.08065
.897	6.360	.18602	.08237	-.00255	.00165	-.00069	.07682	.02502	.17640	.09703
.897	8.550	.29388	.07418	-.00255	.00155	-.00010	.08114	.02590	.28158	.12440
.897	10.700	.40216	.06658	-.00029	.00068	-.00029	.08222	.02806	.37988	.15551
.897	12.860	.51341	.05926	-.00059	.00029	.00069	.08359	.03061	.48192	.19593
.897	15.040	.62624	.05246	-.00069	.00107	-.00059	.08614	.03404	.58239	.24577
.897	17.190	.72082	.05880	-.00147	.00175	-.00098	.08604	.03718	.66313	.29551
.897	19.370	.82207	.06245	-.00314	.00223	-.00118	.08693	.04248	.74672	.35477
.897	21.380	.87691	.08460	-.00088	.00127	-.00196	.08859	.04856	.78420	.40235
GRADIENT		.05618	-.00539	-.00051	.00018	-.00053	-.00092	-.00034	.05680	-.00008

MSFC 561 (0449) ORB 34-5 (BCFM) (NR)

(R92003) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT YMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -4.310
 AILRON = -.630 BDFLAP = -11.700
 SPDPRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 167/ 0 RNVL = 6.53 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.201	.050	-.09605	.10930	.00108	.00138	-.00314	.16728	.04807	-.09625	.16718
1.201	2.170	.03395	.08207	-.00098	.00195	-.00334	.16610	.04690	.02757	.16728
1.201	4.380	.16555	.05648	-.00167	.00234	-.00285	.16277	.04719	.15060	.17474
1.201	6.590	.29296	.03543	-.00245	.00263	-.00177	.15904	.04621	.27275	.19161
1.201	8.830	.42040	.02093	-.00186	.00263	-.00039	.15433	.04641	.39176	.21712
1.201	11.060	.54864	.00605	-.00226	.00243	.00020	.15001	.04729	.50969	.25244
1.201	13.290	.67569	-.00691	-.00010	.00206	.00098	.14766	.04974	.62369	.29904
1.201	15.510	.79705	-.02209	-.00059	.00225	.00088	.14462	.05033	.72936	.35251
1.201	17.710	.91076	-.03033	-.00020	.00167	.00000	.14432	.05494	.82354	.41481
1.201	19.900	1.00868	-.03961	-.00038	.00225	.00029	.14363	.05916	.89948	.47858
1.201	21.980	1.08491	-.02214	-.00500	.00320	.00098	.14010	.06181	.95364	.53608
GRADIENT		.05994	-.01219	-.00063	.00022	.00007	-.00195	-.00020	.05700	.00176

RUN NO. 284/ 0 RNVL = 6.47 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.460	.050	-.06799	.07670	-.00147	.00224	-.00265	.15570	.03699	-.06819	.15560
1.460	2.140	.03807	.05835	-.00235	.00243	-.00245	.15237	.03581	.03238	.15374
1.460	4.330	.14658	.04045	-.00235	.00273	-.00206	.14736	.03512	.13500	.15796
1.460	6.500	.25332	.02290	-.00304	.00262	-.00157	.14265	.03434	.23556	.17092
1.460	8.720	.36468	.00766	-.00373	.00272	-.00059	.13863	.03473	.33937	.19240
1.460	10.920	.47554	-.00875	-.00373	.00262	-.00039	.13520	.03620	.44130	.22281
1.460	13.100	.58268	-.02232	-.00265	.00223	-.00049	.13225	.03846	.53745	.26088
1.460	15.310	.68590	-.03248	-.00206	.00224	-.00059	.12892	.04150	.62712	.30542
1.460	17.510	.78871	-.03667	-.00186	.00155	-.00069	.12470	.04386	.71464	.35634
1.460	19.720	.89163	-.04389	-.00128	.00126	-.00059	.11891	.04641	.79921	.41275
1.460	21.810	.98641	-.04596	-.00265	.00116	-.00020	.11528	.04827	.87299	.47358
GRADIENT		.05013	-.00831	-.00020	.00011	.00014	-.00195	-.00043	.04747	.00056

DATE 16 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) CRB 34-0 (BCFM) (WE) (VR)

(R92003) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT YMRP = 1061.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. YMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -4.310
 AIRLON = -.630 BDPLAP = -11.700
 SPEBRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 297/ 0 RV/L = 7.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.949	.000	-.05916	.03929	-.00196	.00293	-.00167	.13363	.02639	-.05916	.13363
1.949	2.060	.02149	.02839	-.00255	.00302	-.00167	.13059	.02620	.01678	.13127
1.949	4.230	.10360	.01897	-.00275	.00302	-.00137	.12745	.02600	.09399	.13480
1.949	6.380	.18680	.05985	-.00314	.00292	-.00118	.12499	.02512	.17169	.14501
1.949	8.570	.27030	.07325	-.00334	.00301	-.00108	.12176	.02580	.24910	.16080
1.949	10.740	.35026	.07156	-.00304	.00272	-.00088	.11754	.02718	.32220	.18082
1.949	12.920	.44052	-.00515	-.00304	.00243	-.00088	.11528	.02777	.40353	.21084
1.949	15.130	.52833	-.00897	-.00235	.00214	-.00088	.11116	.02914	.48094	.24518
1.949	17.340	.62241	-.01434	-.00235	.00194	-.00108	.10704	.03090	.56217	.28776
1.949	19.480	.70316	-.01972	-.00177	.00136	-.00098	.10145	.03218	.62899	.33014
1.949	21.580	.79077	-.02413	-.00088	.00078	-.00088	.09752	.03326	.69943	.38165
GRADIENT		.03847	-.00480	-.00018	.00002	.00007	-.00146	-.00009	.03820	.00029

RUN NO. 13/ 0 RV/L = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.000	-.05004	-.00003	-.00147	.00224	-.00078	.10802	.01727	-.05004	.10802
2.990	1.970	.00147	.00060	-.00088	.00225	-.00059	.10576	.01717	-.00206	.10576
2.990	4.040	.05602	.00360	-.00108	.00244	-.00049	.10282	.01707	.04866	.10625
2.990	6.080	.11185	.00362	-.00078	.00225	-.00059	.09782	.01648	.10086	.10890
2.990	8.190	.17218	.00236	-.00137	.00225	-.00059	.09458	.01629	.15698	.11813
2.990	10.240	.23409	.00325	-.00080	.00235	-.00059	.09154	.01638	.21408	.13166
2.990	12.310	.29934	.00323	-.00020	.00216	-.00049	.08859	.01580	.27353	.15040
2.990	14.380	.36448	.00272	.00039	.00187	-.00069	.08585	.01560	.33171	.17375
2.990	16.460	.43306	.00237	.00059	.00167	-.00069	.08369	.01589	.39156	.20299
2.990	18.560	.50645	.00035	.00078	.00109	-.00078	.08055	.01609	.45435	.23762
2.990	20.520	.57611	-.00067	.00137	.00099	-.00059	.07839	.01619	.51204	.27540
GRADIENT		.02625	.00090	.00010	.00003	.00007	-.00134	-.00005	.02443	-.00043

NSFC 501 (0A49) CRB 34-0 (BCFM) (NE) (NR)

(R92003) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
LREF = 481.6400 IN.
BREF = 936.7000 IN.
SCALE = .0040

XMRP = 1081.3900 IN.
YMRP = .0000 IN.
ZMRP = .0000 IN.

PARAMETRIC DATA

BETA = .000 ELEVTR = -4.310
AILRON = -.630 BDCLAP = -11.700
SPDRBK = 25.550 RUDDER = .000
CONF16 = 1.000

RUN NO. 14/ 0 RM/L = 4.89 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	.100	-.05494	-.01945	-.00177	.00185	-.00029	.08408	.00481	-.05514	.08398
4.99	1.990	-.01668	-.01680	-.00186	.00175	-.00039	.08222	.00500	-.01943	.08163
4.99	3.980	.02590	-.01313	-.00265	.00233	-.00029	.07976	.00520	.02031	.08143
4.99	5.990	.07015	-.01049	-.00216	.00224	.00010	.07594	.00500	.06181	.08290
4.99	8.070	.11646	-.00714	-.00167	.00205	-.00049	.07339	.00500	.10498	.08899
4.99	10.060	.16561	-.00393	-.00177	.00234	-.00049	.07241	.00520	.15031	.10027
4.99	12.120	.22968	-.00359	-.00265	.00194	-.00069	.07064	.00500	.20966	.11734
4.99	14.160	.27697	-.00099	-.00010	.00167	-.00078	.06946	.00500	.25156	.13520
4.99	16.200	.33823	-.00072	.00029	.00108	-.00118	.06750	.00500	.30405	.15865
4.99	18.280	.40637	.00136	.00010	.00079	-.00108	.06613	.00491	.36517	.19014
4.99	20.190	.47132	.00279	.00059	.00099	-.00128	.06613	.00500	.41952	.22477
GRADIENT		.02184	.00163	-.00023	.00010	.00020	-.00111	.00010	.01945	-.00065

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TABULATED SOURCE DATA - Q449

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MSFC 501 (Q449) CRB 34-0 (SCFM) (ME) (NR)

(R92004) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SA. FT WRP = 1081.3900 IN.
 LREF = 481.6480 IN. YWRP = .0000 IN.
 BREF = 936.7000 IN. ZWRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONF16 = 1.000

RUN NO. 164/ 0 RWL = 4.73 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.594	.030	-.05435	-.03646	.00010	.00147	.00118	.06024	.02953	-.05435	.06024
.594	2.040	.04199	.03384	-.00285	.00155	.00099	.05906	.03022	.03983	.06033
.594	4.130	.14324	.03179	-.00118	.00156	-.00029	.05445	.02963	.13892	.06456
.594	6.210	.24685	.02899	.00039	.00147	-.00029	.04709	.02992	.24037	.07358
.594	8.330	.35899	.02566	.00245	.00071	-.00029	.03856	.03012	.34957	.09016
.594	10.430	.46799	.02159	.00314	-.00105	-.00186	.03218	.03110	.47445	.11636
.594	12.530	.57591	.01838	.00255	-.00027	-.00128	.03159	.03287	.55531	.15580
.594	14.630	.69708	.00987	.00049	.00049	-.00235	.03326	.03542	.66607	.20829
.594	16.740	.82541	.00244	-.00059	.00098	-.00147	.03090	.03836	.78145	.26745
.594	18.850	.97512	-.00948	-.00481	.00143	.00206	.02894	.04297	.91341	.34260
.594	20.880	1.09413	-.01029	-.00118	.00087	.00108	.02590	.04650	1.01299	.41432
GRADIENT		.04820	-.00114	-.00030	.00002	-.00036	-.00142	.00002	.04714	.00106

RUN NO. 163/ 0 RWL = 5.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.899	.020	-.07466	.05403	-.00461	.00143	.00206	.07035	.02610	-.07466	.07035
.899	2.120	.05750	.03989	-.00216	.00185	.00010	.07201	.02829	.05455	.07407
.899	4.300	.18180	.02873	-.00657	.00279	.00186	.07162	.02531	.17591	.08556
.899	6.470	.29296	.02035	-.00432	.00183	.00128	.07231	.02600	.28295	.10488
.899	8.620	.39617	.01290	-.00451	.00173	.00108	.07407	.02747	.38057	.13274
.899	10.780	.50017	.00528	-.00422	.00104	.00157	.07662	.03061	.47701	.16885
.899	12.940	.61859	-.00956	-.00559	.00143	.00177	.07859	.03542	.58523	.21516
.899	15.110	.73475	-.01535	-.00569	.00211	.00000	.08084	.03875	.68825	.26961
.899	17.300	.85484	-.02368	-.00363	.00144	-.00078	.08496	.04395	.79087	.33544
.899	19.420	.93833	-.01007	-.00334	.00174	-.00118	.08761	.04955	.85582	.39480
.899	21.470	.99651	.01059	-.00177	.00097	-.00186	.09301	.05808	.89330	.45141
GRADIENT		.05990	-.00591	-.00047	.00032	-.00004	.00029	-.00019	.05853	.00345

DATE 16 JUL 74

TABULATED SOURCE DATA - 0449

(R92004) (22 MAY 74)

%FC 581 (0449) CEB 34-0 (BCFW) (AE) (VR)

PARAMETRIC DATA

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1061.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 WREF = 936.7500 IN. ZMRP = .0000 IN.
 SCALE = .0040
 BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPBRK = 25.550 RUDDER = .000
 CONFIC = 1.000

RUN NO. 162/ 0 RN/L = 6.31 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.193	.130	-.01305	.05511	.00294	.00081	-.00196	-.16483	.05023	-.01344	.16483
1.193	2.230	.11567	.02757	.00186	.00129	-.00177	.16326	.04670	.10920	.16767
1.193	4.450	.24920	.05079	.00598	.00126	-.00108	-.16149	.04601	.23586	.18043
1.193	6.670	.37763	-.02095	.00069	.00138	.00010	.15786	.04641	.35673	.20073
1.193	8.890	.50390	-.03935	-.00049	.00137	.00186	.15413	.04817	.47397	.25017
1.193	11.120	.63124	-.05221	-.00029	.00137	.00098	.15031	.05004	.59033	.26931
1.193	13.340	.75535	-.06493	.00157	.00099	-.00010	.14942	.05259	.70051	.31984
1.193	15.560	.88143	-.08003	.00147	.00099	.00069	.15021	.05592	.80873	.38126
1.193	17.780	.99759	-.09133	.00108	.00109	.00010	.15011	.05906	.90439	.44768
1.193	19.970	1.10296	-.09535	.00010	.00118	.00010	.14893	.06220	.98572	.51685
1.193	22.090	1.18439	-.08728	-.00304	.00233	.00088	.14530	.06515	1.04311	.57934
1.193	GRADIENT	.08070	-.01257	-.00245	.00011	.00021	-.00077	-.00097	.05770	.00363

RUN NO. 283/ 0 RN/L = 6.47 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.460	.100	-.01177	.03947	-.00108	.00195	-.00128	.15374	.03846	-.01207	.15374
1.460	2.130	.09399	.02084	-.00235	.00204	-.00118	.15080	.03716	.08810	.15433
1.460	4.400	.20132	.07234	-.00255	.00243	-.00088	.14569	.03473	.18955	.16080
1.460	6.570	.37964	-.01517	.00275	.00233	-.00039	.14108	.03444	.29139	.17562
1.460	8.760	.41844	-.03143	-.00324	.00243	.00029	.13834	.03571	.39244	.20044
1.460	10.960	.52950	-.04851	-.00304	.00204	.00078	.13696	.03748	.49379	.23527
1.460	13.180	.63680	-.06147	-.00196	.00175	.00020	.13598	.04032	.59102	.27795
1.460	15.360	.74221	-.07268	-.00086	.00156	.00020	.13353	.04219	.69030	.32534
1.460	17.550	.84699	-.08126	-.00000	.00117	.00000	.13009	.04415	.76821	.37959
1.460	19.760	.94952	-.08726	-.00029	.00098	.00000	.12578	.04709	.85101	.43944
1.460	21.840	1.04292	-.09061	-.00088	.00039	.00029	.12136	.04866	.92283	.50076
1.460	GRADIENT	.04955	-.00863	-.00034	.00011	.00009	-.00188	-.00087	.04688	.00166

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 501(0449) CRB 34-0 (SCFM) (ME) (VR)

0892004) (22 MAY 74)

REFERENCE DATA

SEEF = 2741.0000 SA. FT WARP = 1081.3900 IN.
 LREF = 481.6400 IN. YWAP = .0000 IN.
 REEF = 936.7500 IN. ZWAP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 ALLCON = -.670 BDPLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONF16 = 1.000

RUN NO. 296/ 0 RN/L = 7.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.951	.030	-.02718	.01678	-.00118	.00274	-.00108	.13147	.02865	-.02727	.13137
1.951	2.080	.05102	.02823	-.00196	.00293	-.00118	.12921	.02835	.04631	.13098
1.951	4.280	.13794	-.00350	-.00245	.00302	-.00088	.12911	.02835	.12794	.13002
1.951	6.420	.21663	-.01221	-.00255	.00302	-.00049	.12539	.02777	.20123	.14883
1.951	8.590	.30051	-.01938	-.00275	.00282	-.00049	.12293	.02737	.27873	.16649
1.951	10.780	.38881	-.02551	-.00275	.00253	-.00029	.12146	.02816	.39918	.19210
1.951	12.940	.47191	-.03057	-.00216	.00224	-.00029	.11813	.03051	.43345	.22085
1.951	15.160	.56688	-.03534	-.00206	.00195	-.00029	.11548	.03071	.51695	.25980
1.951	17.360	.66058	-.04207	-.00186	.00185	-.00029	.11096	.03140	.59730	.30316
1.951	19.520	.74525	-.04807	-.00098	.00117	-.00029	.10635	.03238	.66686	.34937
1.951	21.590	.82021	-.05296	.00000	.00049	-.00020	.10154	.03267	.72523	.39627
GRADIENT		.03904	-.00479	-.00030	.00007	.00005	-.00055	-.00007	.03670	.00183

RUN NO. 5/ 0 RN/L = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.000	-.03817	-.00748	-.00039	.00196	.00010	.10753	.01717	-.03817	.10743
2.990	1.980	.01452	-.00741	-.00049	.00206	.00010	.10517	.01717	.01079	.10567
2.990	4.040	.07103	-.00747	-.00069	.00196	.00020	.10204	.01717	.06358	.10674
2.990	6.090	.12882	-.00820	-.00078	.00176	.00000	.09772	.01668	.11763	.11087
2.990	8.200	.19151	-.00952	.00010	.00196	.00000	.09468	.01648	.17601	.12097
2.990	10.250	.25489	-.01092	-.00118	.00195	.00000	.09183	.01629	.23448	.13579
2.990	12.320	.31984	-.01182	.00020	.00138	-.00010	.08869	.01580	.29345	.15492
2.990	14.390	.38691	-.01371	.00039	.00118	.00000	.08653	.01589	.35516	.18052
2.990	16.450	.45857	-.01560	.00059	.00108	.00000	.08477	.01569	.41579	.21123
2.990	18.550	.53372	-.01866	.00078	.00069	.00000	.08231	.01580	.47976	.24100
2.990	20.530	.60632	-.02185	.00098	.00040	.00010	.08025	.01589	.53961	.28726
GRADIENT		.02703	.00000	-.00007	-.00000	.00002	-.00136	-.00000	.02519	.00000

MSFC 591 (0449) CRB 34-0 (BCFM) (NE) (NR)

(R20204) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8220 54. FT XREF = 1081.3900 IN.
 LREF = 481.6480 IN. YREF = .0000 IN.
 BREF = 936.7020 IN. ZREF = .0000 IN.
 SCALE = .5540

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILTRON = -.670 BDFLAP = -11.700
 SPDARK = 25.530 RUDDER = .000
 CONFIG = 1.000

RUN NO. 4/ 0		RV/L = 6.28		GRADIENT INTERVAL = -5.00/ 5.00						
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.000	.000	-.04474	-.01754	.00078	.00187	.00020	.09164	.00932	-.04474	.09164
4.000	1.950	.00000	-.01557	-.00039	.00206	.00020	.08967	.00883	-.00294	.08967
4.000	4.010	.04572	-.01366	-.00049	.00196	.00020	.08683	.00912	.03954	.08977
4.000	6.070	.09527	-.01086	.00029	.00206	.00029	.08379	.00922	.08594	.09340
4.000	8.140	.15040	-.01162	.00020	.00196	.00020	.08104	.00942	.13745	.10154
4.000	10.210	.20672	-.01188	.00000	.00157	.00000	.07849	.00932	.18945	.11391
4.000	12.280	.26329	-.01134	-.00010	.00147	-.00010	.07643	.00903	.24292	.13108
4.000	14.360	.32916	-.01186	.00000	.00108	-.00020	.07496	.00893	.30022	.15423
4.000	16.420	.39539	-.01351	.00059	.00289	-.00020	.07348	.00893	.35850	.18229
4.000	18.530	.46583	-.01510	.00118	.00370	-.00020	.07192	.00903	.41883	.21633
4.000	20.510	.53647	-.01639	.00128	.00330	.00000	.07103	.00893	.47750	.25460
4.000	GRADIENT	.02255	.00096	-.00032	.00002	.00000	-.00120	-.00005	.02101	-.00046

RUN NO. 3/ 0		RV/L = 4.90		GRADIENT INTERVAL = -5.00/ 5.00						
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.030	-.04533	-.02171	.00137	.00246	.00029	.08369	.00451	-.04543	.08369
4.999	1.980	-.00687	-.01984	.00128	.00227	.00010	.08104	.00481	-.00981	.08075
4.999	3.990	.03738	-.01720	.00049	.00255	.00029	.07918	.00471	.03179	.08163
4.999	6.000	.07888	-.01509	.00039	.00246	.00029	.07486	.00471	.07064	.08261
4.999	8.070	.12676	-.01490	.00048	.00226	-.00020	.07290	.00491	.11528	.08997
4.999	10.080	.17807	-.01224	.00010	.00216	-.00029	.07192	.00491	.16267	.10194
4.999	12.120	.23380	-.01068	.00059	.00216	-.00020	.07015	.00481	.21359	.11775
4.999	14.180	.29306	-.01215	.00118	.00129	-.00049	.06809	.00481	.26745	.13775
4.999	16.160	.35781	-.01295	.00167	.00168	-.00039	.06609	.00471	.32465	.16512
4.999	18.250	.42531	-.01362	.00216	.00280	-.00068	.06711	.00491	.38293	.19691
4.999	20.220	.49183	-.01401	.00265	.00390	-.00059	.06632	.00491	.43865	.23203
4.999	GRADIENT	.02089	.00114	-.00022	.00002	.00000	-.00114	.00005	.01951	-.00051



REFERENCE DATA
 SREF = 2741.0000 34. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA
 BETA = .000
 CLVTR = 16.790
 AIRRON = -1.680
 BDFLAP = -11.700
 SPDRK = 25.590
 RUDDER = .000
 CONFIC = 1.000

RUN NO. 176/ 0 RVL = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.597	.210	.24194	-.10804	.00667	.00006	.00000	.09370	.03620	.24165	.09459
.597	2.190	.32916	-.10703	.00716	-.00004	-.00157	.09036	.03640	.32343	.10292
.597	4.280	.42531	-.10550	.00932	-.00002	-.00285	.08379	.03561	.41785	.11538
.597	6.360	.53431	-.11082	.00991	-.00110	-.00177	.07825	.03571	.52254	.13422
.597	8.490	.64900	-.11392	.01060	-.00197	-.00186	.06681	.03581	.63203	.16198
.597	10.560	.75987	-.11843	.01521	-.00429	-.00350	.06059	.03718	.73524	.20172
.597	12.650	.85454	-.12002	.00873	-.00169	-.00059	.06956	.03866	.81854	.25319
.597	14.770	.96659	-.12316	.01001	-.00110	-.00098	.07064	.04278	.91665	.31494
.597	16.860	1.08942	-.12913	.00334	-.00046	.00373	.06887	.04670	1.02241	.38244
.597	19.010	1.23237	-.13952	.00206	.00080	.00579	.06858	.04945	1.14279	.46642
.597	21.010	1.31576	-.11913	.01374	-.00136	.00397	.06397	.05396	1.20529	.53156
GRADIENT		.74906	.00063	.00061	-.00002	-.00070	-.00244	-.00015	.04330	.00512

RUN NO. 175/ 0 RVL = 6.24 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.896	.210	.18533	-.09830	.00673	-.00081	-.00383	.11214	.03807	.18494	.11283
.896	2.310	.31327	-.11289	.00903	-.00101	-.00491	.11165	.03738	.30846	.12421
.896	4.510	.45239	-.13031	.00422	-.00082	.00000	.11028	.03630	.44228	.14550
.896	6.850	.56237	-.13629	.00167	.00099	.00216	.11224	.03807	.54550	.17670
.896	8.820	.65911	-.13390	.00320	-.00006	-.00049	.11489	.04101	.63370	.21457
.896	10.970	.75182	-.14303	.00177	.00080	.00167	.12372	.04611	.71444	.26460
.896	13.130	.86573	-.15437	-.00235	.00155	.00471	.12882	.05013	.81383	.32220
.896	15.280	.97247	-.15779	.00265	.00071	.00235	.13245	.05318	.90311	.38420
.896	17.440	1.05371	-.15137	.00235	.00090	.00137	.13657	.06142	.96433	.44621
.896	19.560	1.13298	-.12979	.00294	.00120	.00059	.13363	.06436	1.02280	.50527
.896	21.590	1.15839	-.08992	.00559	-.00074	-.00186	.13686	.07201	1.02673	.55364
GRADIENT		.06212	-.00745	-.00106	.00038	.00090	-.00044	-.00041	.05986	.00761

MSFC 561 (Q49) ORB 34-0 (SCFM) (NE) (VR)

(R92005) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0540

PARAMETRIC DATA

BETA = .000 ELEVTR = 16.790
 AILRON = -1.680 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 174/ 0 RVNL = 6.63 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.195	.220	.14314	-.05700	.00314	.00120	-.00353	.19750	.05494	.14236	.19809
1.195	2.350	.27147	-.08426	.00206	.00198	-.00324	.19779	.05406	.26313	.20878
1.195	4.560	.45520	-.11210	.00157	.00256	-.00235	.19553	.05357	.38832	.22722
1.195	6.770	.53804	-.13745	.00108	.00256	-.00108	.19210	.05063	.51165	.25420
1.195	9.020	.67579	-.15759	.00128	.00217	-.00078	.18575	.04984	.63762	.29345
1.195	11.260	.80775	-.17154	.00186	.00168	.00059	.19333	.05229	.75496	.34447
1.195	13.490	.93657	-.18138	.00245	.00159	.00000	.19308	.05622	.86563	.40628
1.195	15.700	1.04252	-.18530	.00314	.00169	.00020	.19514	.06063	.95079	.47005
1.195	17.910	1.15260	-.18847	.00265	.00218	.00020	.19858	.06554	1.05556	.54353
1.195	20.080	1.24954	-.18809	.00206	.00178	.00020	.19956	.06995	1.10572	.61653
1.195	22.170	1.32763	-.17997	.00304	.00140	.00020	.19760	.06946	1.15486	.68413
GRADIENT		.06038	-.01270	-.00036	.00031	.00027	-.00046	-.00032	.05667	.00672

RUN NO. 282/ 0 RVNL = 6.48 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.453	.170	.08594	-.03199	-.00029	.00255	-.00304	.17748	.04278	.08545	.17778
1.453	2.260	.18994	-.05064	-.00137	.00274	-.00265	.17591	.04121	.18288	.18327
1.453	4.440	.30012	-.07132	-.00245	.00312	-.00235	.17346	.04052	.28570	.19622
1.453	6.640	.41138	-.09131	-.00245	.00312	-.00196	.17101	.03993	.38881	.21751
1.453	8.840	.52391	-.10953	-.00314	.00311	-.00128	.16934	.04101	.49163	.24793
1.453	11.040	.63880	-.12801	-.00314	.00331	-.00108	.17081	.04356	.59416	.29002
1.453	13.240	.75202	-.14487	-.00235	.00283	-.00128	.17190	.04601	.69266	.33927
1.453	15.440	.85808	-.15623	-.00200	.00275	-.00128	.16983	.04631	.78184	.39225
1.453	17.630	.96665	-.16704	-.00078	.00254	-.00078	.16698	.04719	.87240	.45288
1.453	19.830	1.07388	-.17442	-.00088	.00225	-.00010	.16463	.04876	.95619	.51999
1.453	21.950	1.17399	-.17701	-.00049	.00196	-.00039	.16296	.05013	1.02781	.59014
GRADIENT		.09016	-.00926	-.00051	.00013	.00016	-.00094	-.00053	.04690	.00433

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) ORB 34-0 (BCFM) (NE) (VR)

(R92005) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 16.790
 AILRON = -.1.680 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 295/ 0 RN/L = 6.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.958	.080	.03365	-.02790	-.00118	.00342	-.00235	.14618	.03159	.03346	.14628
1.958	2.130	.11037	-.03837	-.00235	.00361	-.00226	.14550	.03140	.10488	.14952
1.958	4.290	.19396	-.04923	-.00275	.00380	-.00206	.14550	.03140	.18249	.15963
1.958	6.480	.27765	-.05950	-.00294	.00380	-.00186	.14599	.03090	.25940	.17630
1.958	8.640	.36262	-.06810	-.00294	.00390	-.00177	.14501	.03081	.33672	.19789
1.958	10.820	.45209	-.07625	-.00334	.00380	-.00186	.14471	.03100	.41887	.22713
1.958	12.980	.53058	-.08215	-.00255	.00341	-.00196	.13971	.03130	.48565	.25538
1.958	15.180	.62526	-.08934	-.00226	.00332	-.00196	.13892	.03081	.56708	.29786
1.958	17.380	.72386	-.09860	-.00226	.00292	-.00196	.13657	.03090	.64989	.34682
1.958	19.560	.81383	-.10780	-.00147	.00234	-.00206	.13422	.03149	.72190	.39902
1.958	21.650	.90242	-.11558	-.00039	.00196	-.00206	.13255	.03277	.78979	.45612
GRADIENT		.03808	-.00507	-.00037	.00009	.00007	-.00016	-.00005	.03540	.00318

RUN NO. 16/ 0 RN/L = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.010	-.00883	-.02974	-.00088	.00225	-.00108	.11312	.01746	-.00883	.11312
2.990	1.990	.04523	-.03003	-.00029	.00274	-.00098	.11243	.01737	.04130	.11391
2.990	4.050	.10233	-.03193	-.00118	.00244	-.00137	.11008	.01737	.09428	.11705
2.990	6.100	.16434	-.03519	-.00088	.00245	-.00147	.10733	.01678	.15197	.12421
2.990	8.210	.22928	-.03947	-.00098	.00284	-.00157	.10576	.01668	.21182	.13745
2.990	10.260	.29512	-.04316	-.00118	.00293	-.00157	.10489	.01668	.27177	.15580
2.990	12.330	.36487	-.04717	-.00020	.00265	-.00186	.10360	.01629	.33436	.17915
2.990	14.410	.43640	-.05184	.00000	.00245	-.00206	.10341	.01619	.39686	.20878
2.990	16.490	.51106	-.05722	.00029	.00255	-.00216	.10370	.01629	.46063	.24459
2.990	18.590	.58974	-.06428	.00088	.00187	-.00245	.10302	.01638	.52607	.28570
2.990	20.550	.66813	-.07154	.00118	.00158	-.00265	.10360	.01658	.58925	.33161
GRADIENT		.02752	-.00054	-.00008	.00005	-.00007	-.00076	-.00002	.02552	.00098

(R92005) (22 MAY 74)

MSFC 581 (Q49) ORB 34-0 (BCFH) (WE) (VR)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 16.790
 AIRLON = -1.680 BDFLAP = -11.700
 SPDPRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 19/ 0 RV/L = 6.24 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.000	-.02364	-.03336	-.00078	.00196	-.00069	.09674	.00971	-.02364	.09674
4.999	1.960	.02453	-.03375	-.00128	.00205	-.00059	.09566	.00981	.02119	.09566
4.999	4.030	.07505	-.03304	-.00108	.00225	-.00059	.09409	.00981	.06819	.09919
4.999	6.070	.12862	-.03450	-.00078	.00196	-.00088	.09183	.00961	.11813	.10498
4.999	8.160	.18641	-.03803	-.00128	.00185	-.00098	.09046	.00942	.11769	.11597
4.999	10.230	.24488	-.04106	-.00177	.00214	-.00128	.08997	.00932	.22497	.13206
4.999	12.300	.30944	-.04390	-.00078	.00186	-.00157	.09007	.00932	.28305	.15403
4.999	14.380	.37792	-.04706	.00000	.00196	-.00167	.09095	.00922	.34339	.18209
4.999	16.470	.45072	-.05323	.00029	.00138	-.00186	.09114	.00922	.40637	.21525
4.999	18.550	.52646	-.05862	.00078	.00118	-.00196	.09173	.00903	.46985	.25450
4.999	20.540	.60211	-.06437	.00108	.00119	-.00196	.09271	.00903	.53127	.29816
GRADIENT		.02449	.00008	-.00007	.00007	.00002	-.00066	.00002	.02279	.00062

RUN NO. 15/ 0 RV/L = 4.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.030	-.03267	-.03476	.00098	.00295	-.00059	.08761	.00500	-.03277	.08761
4.999	1.960	.01177	-.03531	.00147	.00256	-.00029	.08653	.00491	.00875	.08693
4.999	3.990	.05435	-.03434	.00137	.00305	-.00049	.08565	.00471	.04827	.08918
4.999	6.070	.10204	-.03667	.00196	.00286	-.00059	.08290	.00520	.09281	.09311
4.999	8.070	.15511	-.03892	.00118	.00236	-.00058	.08173	.00510	.14206	.10272
4.999	10.090	.21153	-.03927	.00235	.00286	-.00128	.08222	.00510	.19387	.11803
4.999	12.130	.27216	-.04305	.00157	.00266	-.00128	.08241	.00500	.24871	.13775
4.999	14.170	.33573	-.04609	.00216	.00247	-.00157	.08330	.00461	.30512	.16296
4.999	16.190	.40598	-.05232	.00206	.00218	-.00216	.08359	.00540	.36644	.19357
4.999	18.260	.48045	-.05645	.00265	.00228	-.00226	.08565	.00491	.42943	.23193
4.999	20.200	.54873	-.06078	.00314	.00209	-.00255	.08693	.00481	.48486	.27118
GRADIENT		.02197	.00011	.00010	.00003	.00002	-.00049	-.00007	.02046	.00040

DATE 18 JUL 74

TABULATED SOURCE DATA - ON49

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MSFC 561 (ON49) ORB 34-0 (BCFM) (NE) (VR)

(R92006) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.160
 ALLRON = -.670 BDFLAP = .000
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 183/ D RML = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.598	.040	-.03610	.02370	.00334	.00052	.00106	.03700	.02826	-.03620	.03700
.598	2.050	.06240	.02169	.00314	.00081	.00059	.05622	.02835	.06044	.05838
.598	4.140	.16316	.02011	.00441	.00053	-.00049	.03121	.02796	.15904	.06289
.598	6.220	.27059	.01689	.00226	.00021	-.00008	.04287	.02904	.26431	.07201
.598	8.340	.38116	.01276	.00383	-.00095	-.00098	.03375	.02894	.37223	.08879
.598	10.440	.49163	.00988	.00687	-.00240	-.00147	.02727	.02953	.47858	.11606
.598	12.520	.60073	.00447	.00628	-.00192	-.00098	.02865	.03130	.58023	.15825
.598	14.650	.72308	-.00345	.00657	-.00053	-.00167	.03002	.03395	.69197	.21192
.598	16.770	.85906	-.01530	.00353	-.00027	-.00147	.02943	.03826	.81402	.27608
.598	18.860	.99425	-.02301	.00314	.00003	.00285	.02541	.04150	.93264	.34564
.598	20.900	1.12975	-.03129	.00275	-.00037	.00441	.02345	.04464	1.04704	.42502
GRADIENT		.04860	-.00087	.00027	.00000	-.00038	-.00142	-.00007	.04762	.00144

RUN NO. 184/ D RML = 6.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.897	.020	-.05563	.04196	-.00294	.00174	.00206	.06750	.02571	-.05563	.06750
.897	2.120	.06534	.03238	.00000	.00118	-.00076	.06691	.02541	.06299	.06927
.897	4.300	.18298	.02381	-.00304	.00253	.00137	.06544	.02492	.17758	.07898
.897	6.460	.29816	.01530	-.00216	.00155	.00118	.06534	.02610	.28884	.09860
.897	8.620	.40608	.00900	-.00069	.00117	.00039	.06897	.02826	.39117	.12911
.897	10.790	.52234	-.00829	-.00039	.00049	.00157	.07339	.03149	.49958	.17003
.897	12.930	.63870	-.02365	-.00431	.00114	.00363	.07545	.03503	.60564	.21653
.897	15.120	.76144	-.03630	-.00245	-.00002	.00226	.07682	.03895	.71503	.27294
.897	17.320	.88623	-.04349	-.00010	.00088	.00029	.08133	.04513	.82178	.34152
.897	19.460	.98219	-.04041	-.00088	.00078	-.00010	.08418	.05053	.89801	.40677
.897	21.490	1.03556	-.01954	-.00147	-.00021	-.00049	.08663	.05995	.93166	.46014
GRADIENT		.05574	-.00424	-.00003	.00019	-.00015	-.00048	-.00018	.05448	.00269

MSFC 581(0449) ORB 34-0 (BCFM) (WE) (VR)

(R92006) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRCRN = -.670 BDFLAP = .000
 SPDRK = 25.550 RUDDER = .000
 CONF16 = 1.000

RUN NO. 185/ 0 RN/L = 6.64 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.197	.120	.00294	.04425	.00255	.00081	-.00206	.15914	.05180	.00255	.15914
1.197	2.250	.13245	.01527	.00078	.00148	-.00177	.15963	.05200	.12607	.16473
1.197	4.480	.26303	-.01166	.00078	.00177	-.00118	.15580	.04876	.25008	.17581
1.197	6.660	.39068	-.03371	.00069	.00148	-.00010	.15325	.04670	.37027	.19750
1.197	8.900	.52048	-.05204	.00059	.00138	.00128	.15060	.04709	.49085	.22938
1.197	11.130	.64763	-.06481	.00118	.00099	.00177	.14834	.05013	.60681	.27059
1.197	13.330	.77429	-.07845	.00245	.00031	.00157	.14736	.05259	.71945	.32210
1.197	15.570	.89497	-.09403	.00177	.00100	.00147	.14775	.05573	.82246	.38263
1.197	17.780	1.01446	-.10596	.00157	.00090	.00049	.14766	.06063	.92077	.45052
1.197	19.980	1.11464	-.11045	.00088	.00099	.00020	.14775	.06426	.99720	.51940
1.197	22.090	1.19764	-.10264	-.00383	.00282	.00128	.14609	.06789	1.05508	.58513
GRADIENT		.09992	-.01288	-.00040	.00022	.00020	-.00077	-.00071	.05703	.00385

RUN NO. 289/ 0 RN/L = 6.46 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.459	.110	-.00353	.03109	-.00098	.00195	-.00157	.15158	.04101	-.00383	.15148
1.459	2.190	.10262	.01199	-.00186	.00214	-.00137	.14942	.03885	.09674	.15325
1.459	4.380	.21074	-.00785	.00206	.00234	-.00118	.14511	.03709	.19957	.16080
1.459	6.570	.32014	-.02574	-.00226	.00243	-.00049	.14118	.03620	.30189	.17699
1.459	8.770	.43022	-.04371	-.00275	.00223	.00020	.13765	.03738	.40422	.20162
1.459	10.970	.54363	-.06134	-.00294	.00204	.00099	.13559	.03875	.50782	.23664
1.459	13.170	.65253	-.07498	-.00167	.00175	.00010	.13422	.04081	.60475	.27942
1.459	15.360	.75751	-.08801	-.00147	.00166	.00029	.13098	.04297	.69570	.32700
1.459	17.560	.86445	-.09742	-.00216	.00136	.00029	.12735	.04464	.78567	.38234
1.459	19.760	.96639	-.10353	-.00118	.00097	.00020	.12548	.04974	.86703	.44493
1.459	21.850	1.06175	-.10665	-.00078	.00039	.00029	.12283	.05082	.93961	.50929
GRADIENT		.05017	-.00912	-.00025	.00009	.00009	-.00152	-.00092	.04751	.00219

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581 (0449) ORB 34-0 (BCFM) (NE) (VR)

(R92006) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BCFAP = .000
 SPDRK = 25.550 RUDDER = .000
 CONF16 = 1.000

PARAMETRIC DATA

RUN NO. 292/ 0 RVL = 7.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.951	.030	-.02207	.01232	-.00098	.00294	-.00098	.13068	.02953	-.02217	.13059
1.951	2.090	.05857	.05142	-.00167	.00303	-.00108	.12902	.02875	.05386	.13108
1.951	4.250	.14108	-.01032	-.00206	.00293	-.00088	.12774	.02845	.13127	.13785
1.951	6.410	.22673	-.02017	-.00225	.00283	-.00059	.12656	.02786	.21123	.15109
1.951	8.590	.31327	-.02924	-.00285	.00282	-.00049	.12411	.02757	.29119	.16954
1.951	10.770	.39156	-.03389	-.00245	.00253	-.00039	.11950	.02845	.36232	.19063
1.951	12.950	.48467	-.03985	-.00275	.00233	-.00020	.11763	.02934	.44591	.22330
1.951	15.150	.56973	-.04564	-.00216	.00194	-.00039	.11283	.03022	.52038	.25783
1.951	17.360	.66902	-.05315	-.00186	.00175	-.00029	.10518	.03100	.60564	.30483
1.951	19.500	.75133	-.05996	-.00108	.00117	-.00020	.10517	.03218	.67304	.35006
1.951	21.580	.82972	-.06645	-.00020	.00088	-.00020	.10396	.03355	.73436	.39911
1.951	GRADIENT	.03866	-.00536	-.00026	-.00000	.00002	-.00070	-.00025	.03636	.00173

RUN NO. 2/ 0 RVL = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.000	-.03728	-.01075	-.00069	.00225	.00010	.10645	.01658	-.03728	.10645
2.990	1.980	.01746	-.01094	-.00088	.00205	-.00020	.10498	.01629	.01383	.10547
2.990	4.040	.07211	-.01065	-.00098	.00205	-.00020	.10204	.01648	.06475	.10684
2.990	6.080	.13029	-.01223	-.00078	.00215	-.00010	.09850	.01648	.11911	.11175
2.990	8.200	.19436	-.01305	-.00128	.00234	.00000	.09546	.01638	.17876	.12215
2.990	10.250	.25921	-.01530	-.00147	.00224	-.00010	.09203	.01688	.23870	.13667
2.990	12.320	.32426	-.01803	-.00010	.00186	-.00020	.08938	.01668	.29767	.15658
2.990	14.410	.39421	-.01905	-.00020	.00186	-.00010	.08732	.01648	.36007	.18268
2.990	16.470	.46387	-.02287	.00069	.00118	-.00029	.08428	.01629	.42090	.21241
2.990	18.570	.53931	-.02737	.00049	.00089	-.00020	.08222	.01629	.48496	.24969
2.990	20.530	.61270	-.03006	.00147	.00060	-.00020	.08025	.01629	.54559	.29011
2.990	GRADIENT	.02707	.00003	-.00007	-.00005	-.00007	-.00110	-.00002	.02525	.00010

(R92006) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8550 SQ. FT XMRP = 1081.3950 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
AILRON = -.670 BCFAP = .000
SPDRK = 25.550 RUDDER = .000
CONFIG = 1.000

RUN NO. 1/ 0 RV/L = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.010	-.04670	-.02396	.00078	.00226	.00039	.08506	-.00320	-.04670	.08506
4.959	1.950	-.00648	-.02273	.00128	.00148	.00049	.08182	-.00569	-.00932	.08163
4.959	3.980	.03591	-.01945	.00049	.00236	.00049	.08025	-.00549	.03022	.08251
4.959	5.990	.07918	-.01837	.00039	.00206	.00039	.07672	-.00392	.07074	.08457
4.959	8.050	.12902	-.01873	.00020	.00147	.00000	.07290	-.00226	.11754	.09026
4.959	10.080	.18160	-.01606	.00010	.00157	-.00010	.07162	-.00069	.16820	.10233
4.959	12.120	.23624	-.01508	.00069	.00187	.00000	.07035	-.00069	.21682	.11852
4.959	14.160	.29767	-.01575	.00049	.00148	-.00020	.06878	-.00059	.27177	.13951
4.959	16.180	.35987	-.01959	.00108	.00128	-.00049	.06819	-.00039	.32651	.16581
4.959	18.250	.43022	-.01982	.00147	.00060	-.00059	.06691	-.00049	.38764	.19838
4.959	20.190	.49585	-.02119	.00137	.00021	-.00049	.06642	.00000	.44238	.23350
4.959	GRADIENT	.02081	.00114	-.00008	.00003	.00002	-.00121	-.00007	.01938	-.00063

DATE 16 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581 (0449) CRB 34-0 (BCFM) (NE) (VR)

(R92007) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
AILRON = -.670 BDFLAP = 16.300
SPDRK = 25.590 RUDDER = .000
CONFIG = 1.000

RUN NO. 182/ 0 RN/L = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.598	.070	.02904	-.01424	-.00147	.00136	.00108	.06416	.03601	.02894	.06416
.598	2.070	.11989	-.01617	-.00255	.00116	.00020	.08279	.03591	.11744	.06711
.598	4.170	.22134	-.01803	-.00226	.00106	.00088	.05818	.03512	.21653	.07417
.598	6.250	.33132	-.02169	-.00294	.00125	-.00088	.05161	.03630	.32396	.08742
.598	8.360	.43659	-.02659	-.00324	.00007	-.00108	.04278	.03728	.42580	.10586
.598	10.470	.54942	-.03127	-.00206	-.00119	-.00206	.03679	.03728	.53362	.13608
.598	12.550	.66499	-.03909	-.00049	.00019	.00000	.04170	.03905	.63998	.18523
.598	14.670	.78822	-.04670	-.00059	.00039	-.00167	.04013	.04032	.75231	.23851
.598	16.790	.92626	-.05639	-.00049	.00039	.00078	.03924	.04386	.87534	.30532
.598	18.920	1.07255	-.06808	.00000	.00088	.00363	.03817	.04798	1.00220	.38391
.598	20.930	1.19891	-.07332	.00069	.00050	.00422	.03542	.05396	1.10718	.46141
GRADIENT		.04691	-.00093	-.00019	-.00007	-.00048	-.00147	-.00022	.04577	.00245

RUN NO. 181/ 0 RN/L = 6.23 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.895	.050	.00167	-.00404	-.00294	.00145	.00196	.07721	.03542	.00157	.07721
.895	2.130	.10930	-.00599	-.00226	.00136	.00000	.07682	.03561	.10635	.08084
.895	4.310	.23154	-.01681	-.00608	.00280	.00137	.07653	.03601	.22307	.09370
.895	6.470	.35389	-.02965	-.00157	.00126	.00000	.07927	.03718	.34260	.11871
.895	8.650	.46524	-.04132	-.00177	.00136	.00069	.08084	.03866	.44778	.14991
.895	10.820	.58356	-.05887	-.00392	.00105	.00157	.08438	.04042	.55727	.19240
.895	12.990	.71483	-.07921	-.00392	.00105	.00353	.08761	.04386	.67677	.24616
.895	15.180	.84660	-.09906	-.00285	.00125	.00196	.09065	.04709	.79332	.30925
.895	17.360	.96600	-.10928	-.00255	.00135	.00339	.09114	.05278	.89477	.37327
.895	19.510	1.07363	-.10714	-.00216	.00116	-.00020	.09458	.06210	.98032	.44788
.895	21.550	1.14407	-.09209	-.00275	.00057	-.00088	.09723	.07093	1.02830	.51076
GRADIENT		.05398	-.00301	-.00075	.00032	-.00013	-.00016	.00014	.03248	.00389

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TABULATED SOURCE DATA - 0A49

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MSFC 501 (0A49) CRB 34-0 (BCFM) (AE) (VR)

(R92007) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = 16.300
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 160/ 0 RM/L = 6.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.200	.120	.03620	.01112	.00186	.00119	-.00216	.16983	.05376	.03581	.16993
1.200	2.250	.11661	-.01989	.00078	.00138	-.00206	.17052	.05347	.15874	.17689
1.200	4.460	.29757	-.04912	.00039	.00157	-.00128	.16993	.05269	.28344	.19269
1.200	6.680	.42570	-.07319	.00029	.00187	-.00010	.16630	.05288	.40353	.21467
1.200	8.910	.55903	-.09388	-.00020	.00167	.00118	.16375	.05484	.52685	.24842
1.200	11.130	.68452	-.10648	-.00029	.00157	.00157	.16237	.05690	.64027	.29149
1.200	13.350	.80822	-.12055	.00039	.00098	.00206	.16335	.06024	.74966	.34584
1.200	15.580	.93706	-.13534	-.00078	.00186	.00147	.16581	.06495	.85808	.41138
1.200	17.780	1.04763	-.14682	-.00059	.00176	.00049	.16591	.06662	.94687	.47800
1.200	19.960	1.15329	-.15258	-.00137	.00205	.00069	.16708	.07142	1.02693	.55079
1.200	22.080	1.24071	-.14838	-.00520	.00270	.00118	.16934	.07672	1.08618	.62300
GRADIENT		.06063	-.01397	-.00034	.00009	.00021	.00002	-.00025	.05745	.00530

RUN NO. 280/ 0 RM/L = 6.48 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.456	.120	.02345	.00811	-.00049	.00176	-.00118	.15972	.04258	.02315	.15972
1.456	2.200	.12911	-.01264	-.00147	.00185	-.00098	.15914	.04258	.12293	.16394
1.456	4.390	.24086	-.03513	-.00235	.00214	-.00068	.15649	.04121	.22821	.17454
1.456	6.580	.35281	-.05549	-.00186	.00214	-.00039	.15384	.04209	.33279	.19328
1.456	8.780	.46377	-.07374	-.00235	.00224	.00020	.15119	.04327	.43922	.22026
1.456	10.970	.57522	-.09401	-.00235	.00214	.00068	.14932	.04356	.53627	.25617
1.456	13.150	.68540	-.10966	-.00177	.00175	.00049	.14785	.04592	.63380	.30002
1.456	15.360	.79028	-.12278	-.00128	.00156	.00020	.14707	.04749	.72298	.35124
1.456	17.560	.89673	-.13508	-.00069	.00117	-.00010	.14589	.04915	.81089	.40971
1.456	19.750	1.00250	-.13990	-.00000	.00049	.00000	.14314	.05200	.89506	.47558
1.456	21.860	1.10041	-.14530	-.00039	.00009	.00010	.14157	.05543	.96845	.54128
GRADIENT		.05092	-.01013	-.00044	.00009	.00007	-.00076	-.00032	.04802	.00348

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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(192007) (22 MAY 74)

REFERENCE DATA

SHEF = 2741.0000 SQ. FT
 LEF = 401.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.100
 AILRON = -.670 BDFLAP = 16.300
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 293/ 0 RWL = 7.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.953	.030	-.00530	-.00618	-.00098	.00274	-.00118	.13998	.03051	-.00540	.13998
1.953	2.090	.07604	-.01755	-.00137	.00303	-.00098	.13422	.03002	.07113	.13696
1.953	4.260	.16090	-.03051	-.00235	.00292	-.00088	.13353	.03022	.15050	.14511
1.953	6.410	.24724	-.04209	-.00216	.00283	-.00059	.13314	.02975	.23085	.16002
1.953	8.610	.33613	-.05189	-.00275	.00272	-.00049	.13127	.02875	.31266	.18013
1.953	10.770	.41305	-.05859	-.00235	.00234	-.00039	.12666	.02992	.38204	.20162
1.953	12.950	.50056	-.06532	-.00235	.00224	-.00020	.12225	.02943	.46034	.23135
1.953	15.140	.59141	-.07277	-.00186	.00185	-.00020	.12009	.03081	.53951	.27049
1.953	17.340	.68756	-.08042	-.00147	.00166	-.00010	.11656	.03061	.62153	.31621
1.953	19.500	.77488	-.08918	-.00088	.00117	-.00010	.11332	.03149	.69256	.36556
1.953	21.600	.86141	-.09689	-.00010	.00069	.00000	.11136	.03257	.75987	.42070
GRADIENT		.53929	-.00575	-.00033	.00004	.00007	-.00058	-.00007	.03685	.00217

RUN NO. 7/ 0 RWL = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.000	-.02659	-.01967	-.00069	.00186	-.00020	.10871	.01727	-.02669	.10871
2.990	1.980	.02767	-.01929	-.00078	.00215	.00000	.10724	.01746	.02394	.10812
2.990	4.040	.08438	-.02080	-.00098	.00195	.00000	.10400	.01727	.07682	.10979
2.990	6.090	.14246	-.02229	.00039	.00177	.00000	.09978	.01727	.13798	.11440
2.990	8.200	.20858	-.02568	-.00088	.00186	-.00010	.09654	.01698	.19269	.12529
2.990	10.290	.27245	-.02824	.00000	.00167	.00000	.09379	.01658	.25136	.14079
2.990	12.320	.34093	-.03034	.00029	.00177	.00000	.09281	.01629	.31327	.16345
2.990	14.400	.41148	-.03511	.00010	.00147	.00000	.09114	.01678	.37366	.19063
2.990	16.470	.48369	-.04015	.00078	.00089	-.00010	.08948	.01629	.43836	.22310
2.990	18.560	.56090	-.04598	.00098	.00069	-.00010	.08630	.01638	.50360	.26225
2.990	20.550	.63625	-.05271	.00196	.00021	.00000	.08693	.01637	.56522	.30463
GRADIENT		.02747	-.00028	-.00007	.00002	.00005	-.00117	-.00000	.02562	.00027

REFERENCE DATA

3REF = 2741.0000 SQ. FT
 1REF = 481.6489 IN.
 2REF = 936.7000 IN.
 SCALE = .5000
 3REF = 1081.3900 IN.
 1REF = .0000 IN.
 2REF = .0000 IN.

PARAMETRIC DATA

BETA	=	.000	ELEVTR	=	4.160
AIRLON	=	-.670	BDFLAP	=	16.300
SPBRK	=	25.550	RUDDER	=	.000
CONFIC	=	1.000			

RUN NO.	6/ 0	RM/L =	4.90	GRADIENT INTERVAL =	-5.00/	5.00
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NAME	ALPHA	CN	CLN	CY	CYN	COL	CAP	CAB	CL	CD
4.959	.010	-.04209	-.02833	.00206	.00198	.00039	.00487	.00481	-.04209	.08487
4.959	1.960	-.00216	-.02528	.00196	.00188	.00049	.08281	.00510	-.00509	.08271
4.959	3.990	.04130	-.02478	.00059	.00177	-.00010	.07976	.00510	.03561	.08251
4.959	5.990	.08594	-.02532	.00039	.00157	.00000	.07633	.00520	.07751	.08487
4.959	8.000	.13647	-.02451	.00298	.00197	.00000	.07496	.00530	.12460	.09330
4.959	10.080	.18926	-.02599	.00088	.00168	.00020	.07309	.00520	.17356	.10508
4.959	12.120	.24842	-.02718	.00069	.00148	.00049	.07201	.00520	.22772	.12254
4.959	14.160	.30395	-.02561	.00186	.00119	.00029	.07113	.00530	.27726	.14344
4.959	16.190	.37054	-.02977	.00177	.00139	.00029	.07054	.00520	.34241	.17287
4.959	18.270	.44601	-.03324	.00167	.00170	.00078	.07074	.00520	.40137	.20701
4.959	20.190	.51695	-.03904	.00285	.00100	.00039	.07142	.00530	.46043	.24557
GRADIENT		.02096	.00089	-.00037	-.00005	.00012	-.00128	.00007	.01953	-.00059

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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M8FC 501(0A49) CRB 34-0 (BCFM) (NE) (NR)

(R92008) (22 MAY 74)

REFERENCE DATA

SECF = 2741.0500 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6400 IN. YMRP = .0000 IN.
 BREF = 936.7500 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 16.790
 ALLCON = -1.690 BDFLAP = 16.300
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 177/ 0 RV/L = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.597	.210	.29688	-.14046	-.00128	.00176	-.00029	.08948	.03954	.29649	.09056
.597	2.220	.38901	-.14718	-.00137	.00203	-.00167	.08653	.03767	.38538	.10154
.597	4.310	.48890	-.15024	-.00059	.00176	-.00294	.08065	.03836	.48084	.11714
.597	6.390	.59995	-.15677	.00314	.00032	-.00196	.07280	.03846	.58808	.13922
.597	8.510	.71562	-.16189	.00285	-.00047	-.00196	.06456	.03718	.69816	.16993
.597	10.610	.82796	-.16609	.00746	-.00210	-.00461	.06220	.03885	.80225	.21369
.597	12.680	.92499	-.16996	.00590	.00004	-.00088	.06007	.04160	.80722	.27049
.597	14.800	1.03997	-.17451	.00697	.00035	-.00147	.07093	.04336	.98729	.33436
.597	16.920	1.18145	-.18356	.00118	.00109	.00441	.07260	.04827	1.10914	.41354
.597	19.040	1.32548	-.19906	-.00422	.00203	.00608	.07358	.05053	1.22884	.50213
.597	21.040	1.42368	-.18859	.00657	.00054	.00078	.07074	.05583	1.30330	.57738
GRADIENT		.04669	-.00044	.00017	.00000	-.00065	-.00216	-.00028	.04497	.05649

RUN NO. 178/ 0 RV/L = 6.24 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.895	.240	.24557	-.14425	.00481	-.00025	-.00353	.10775	.04013	.24508	.10871
.895	2.390	.38018	-.16018	.00638	-.00014	-.00481	.10920	.04013	.37537	.12470
.895	4.540	.52254	-.18132	-.00029	.00186	-.00088	.10802	.04052	.51233	.14903
.895	6.710	.63321	-.19154	-.00128	.00146	.00245	.11136	.04091	.61584	.18455
.895	8.850	.73387	-.19758	.00078	.00089	-.00039	.11518	.04317	.70738	.22683
.895	11.020	.83975	-.20894	.00226	.00116	.00226	.12264	.04768	.80378	.28109
.895	13.180	.95913	-.22454	-.00334	.00154	.00334	.12803	.05059	.90458	.34349
.895	15.350	1.06646	-.22612	-.00186	.00175	.00226	.13039	.05406	.99386	.40804
.895	17.510	1.15879	-.22593	.00216	.00120	.00108	.13579	.06240	1.06421	.47819
.895	19.640	1.24552	-.21339	.00186	.00109	.00078	.13696	.07250	1.12700	.54765
.895	21.640	1.27053	-.17334	.00883	-.00130	-.00245	.14030	.08281	1.12916	.59916
GRADIENT		.06441	-.02663	-.00120	.00049	.00062	.00006	.00009	.06215	.00939

MSFC 561 (ON49) ORB 34-0 (BCFM) (NE) (NR)

(R92008) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
LREF = 481.6400 IN.
BREF = 936.7500 IN.
SCALE = .0040

XMRP = 1061.3900 IN.
YMRP = .0000 IN.
ZMRP = .0000 IN.

PARAMETRIC DATA

BETA = .000 ELEVTR = 16.790
ALURON = -1.680 BDFLAP = 16.300
SPDRK = 25.550 RUDDER = .000
CONFIC = 1.000

RUN NO. 179/ 0 RNL = 6.66 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLW	CY	CYN	CBL	CAP	CAB	CL	CD
1.196	.220	.19612	-.11825	.00392	.00131	-.00324	.20329	.06318	.19534	.20407
1.196	2.370	.32475	-.13205	.00235	.00179	-.00343	.20466	.08240	.31601	.21790
1.196	4.560	.45671	-.16128	.00157	.00217	-.00245	.20417	.06161	.43895	.23998
1.196	6.790	.59337	-.18754	.00128	.00227	-.00098	.20260	.06093	.56322	.27137
1.196	9.040	.72806	-.20753	.00106	.00187	-.00098	.20224	.05985	.68746	.31219
1.196	11.280	.86416	-.22345	.00186	.00149	.00039	.20073	.06083	.80824	.36595
1.196	13.480	.98101	-.23174	.00255	.00130	.00098	.20201	.08250	.90684	.42521
1.196	15.710	1.09688	-.23898	.00245	.00179	.00078	.20790	.06554	.99945	.49723
1.196	17.920	1.20323	-.24318	.00128	.00246	.00049	.21270	.07054	1.07932	.57267
1.196	20.090	1.30271	-.24904	.00049	.00236	.00039	.21437	.07447	1.14976	.64900
1.196	22.190	1.38630	-.25561	.00226	.00110	.00039	.21457	.07967	1.20254	.72229
1.196	GRADIENT	.05977	-.00989	-.00054	.00020	.00018	.00020	-.00036	.05587	.00824

RUN NO. 287/ 0 RNL = 6.48 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLW	CY	CYN	CBL	CAP	CAB	CL	CD
1.457	.180	.12126	-.06857	-.00118	.00293	-.00304	.17817	.04670	.12068	.17856
1.457	2.260	.22654	-.08875	-.00206	.00302	-.00285	.17935	.04572	.21928	.18818
1.457	4.430	.33730	-.11116	-.00206	.00302	-.00235	.17905	.04464	.32229	.20476
1.457	6.640	.44915	-.13326	-.00177	.00313	-.00196	.17846	.04297	.42551	.22928
1.457	8.840	.56551	-.15510	-.00314	.00321	-.00098	.17876	.04346	.53127	.26382
1.457	11.040	.68069	-.17589	-.00383	.00311	-.00049	.17925	.04474	.63370	.30640
1.457	13.220	.79126	-.19144	-.00324	.00301	-.00029	.17846	.04425	.72945	.35467
1.457	15.490	.90232	-.20378	-.00304	.00292	-.00039	.17886	.04690	.82207	.41285
1.457	17.660	1.01574	-.21648	-.00314	.00282	-.00029	.17925	.04915	.91351	.47898
1.457	19.830	1.12876	-.22619	-.00216	.00204	-.00029	.17925	.05278	1.00073	.55207
1.457	21.940	1.23315	-.23023	-.00078	.00156	-.00059	.18023	.05739	1.07598	.62879
1.457	GRADIENT	.05059	-.00998	-.00020	.00002	.00016	.00020	-.00048	.04722	.00615

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

PAGE 31

MSFC 581 (0A49) CEB 34-0 BCF70 (NE) (NR)

0192008 (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 ELEVTR = 16.790
 AIRLON = -1.680
 BCFAP = 16.300
 SPOBCK = 25.550
 RUCCOR = .000
 CONFIC = 1.000

PARAMETRIC DATA

RUN NO. 294/ 0 RWL = 7.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLN	CY	CYN	CBL	CAP	CAB	CL	CD
1.956	.000	.05612	-.03111	-.00068	.00313	-.00235	.14785	.03140	.03583	.14785
1.956	2.140	.13559	-.06263	-.00167	.00342	-.00216	.14815	.03179	.13009	.15315
1.956	4.300	.22222	-.07557	-.00196	.00361	-.00206	.14952	.03140	.21035	.16581
1.956	6.470	.30728	-.08784	-.00216	.00342	-.00186	.14972	.03051	.28845	.18347
1.956	8.630	.36881	-.09863	-.00275	.00371	-.00177	.14795	.02934	.36222	.20466
1.956	10.810	.47701	-.10835	-.00255	.00331	-.00186	.14785	.03090	.44081	.23478
1.956	12.990	.56551	-.11602	-.00226	.00312	-.00206	.14569	.03022	.51822	.26922
1.956	15.190	.66392	-.12643	-.00206	.00302	-.00186	.14589	.03081	.60250	.31484
1.956	17.390	.76095	-.13708	-.00186	.00283	-.00177	.14501	.03159	.68275	.36595
1.956	19.580	.85445	-.14836	-.00177	.00244	-.00186	.14393	.03297	.75683	.42197
1.956	21.680	.94598	-.15908	-.00059	.00196	-.00216	.14462	.03473	.82580	.48369
GRADIENT		.03937	-.00579	-.00025	.00011	.00007	.00040	-.00000	.03682	.00427

RUN NO. 17/ 0 RWL = 4.03 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLN	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.030	.00304	-.04135	-.00049	.00225	-.00098	.11616	.01786	.00304	.11616
2.990	1.990	.05769	-.04415	-.00020	.00216	-.00108	.11567	.01786	.05367	.11734
2.990	4.080	.11705	-.04533	-.00069	.00235	-.00128	.11302	.01776	.10871	.12097
2.990	6.100	.17787	-.04842	.00059	.00226	-.00118	.11018	.01727	.16512	.12853
2.990	8.210	.24390	-.05481	-.00098	.00264	-.00137	.10851	.01717	.22595	.14216
2.990	10.280	.31268	-.06010	-.00069	.00255	-.00167	.10782	.01717	.28845	.16176
2.990	12.340	.38381	-.06593	.00069	.00256	-.00177	.10792	.01688	.35183	.18740
2.990	14.410	.45808	-.07335	.00059	.00226	-.00196	.10773	.01668	.41687	.21839
2.990	16.470	.53431	-.08161	.00078	.00216	-.00216	.10851	.01668	.48153	.25558
2.990	18.590	.61584	-.09066	.00108	.00187	-.00245	.10930	.01678	.54883	.30052
2.990	20.590	.69678	-.10000	.00177	.00168	-.00255	.11018	.01697	.61368	.34790
GRADIENT		.02829	-.00098	-.00003	.00002	-.00007	-.00078	-.00000	.02622	.00120

MSFC 581(0A49) CRB 34-0 (SCFM) (WE) (VR)

(R92008) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 16.790
 AILRON = -1.680 BDFLAP = 16.300
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 18/ 0 RNVL = 4.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	.010	-.02423	-.03675	-.00098	.00284	-.00039	.08850	.00481	-.02433	.08850
4.99	1.960	.02031	-.03875	.00078	.00197	-.00049	.08722	.00491	.01737	.08791
4.99	3.990	.06436	-.03843	.00078	.00285	-.00137	.08585	.00549	.09818	.09007
4.99	6.000	.11440	-.04150	-.00128	.00244	-.00118	.08330	.00520	.10508	.09477
4.99	8.080	.17111	-.04592	-.00128	.00303	-.00128	.08310	.00520	.15766	.10635
4.99	10.090	.22565	-.04901	-.00147	.00244	-.00177	.08271	.00559	.20770	.12097
4.99	12.140	.29168	-.05357	.00039	.00265	-.00196	.08388	.00569	.26755	.14344
4.99	14.180	.35742	-.06093	-.00157	.00254	-.00245	.08506	.00510	.32563	.17003
4.99	16.200	.43139	-.06865	.00088	.00256	-.00265	.08673	.00520	.39009	.20368
4.99	18.290	.50733	-.07672	.00147	.00286	-.00275	.08865	.00540	.45386	.24341
4.99	20.210	.58376	-.08575	.00275	.00228	-.00334	.09134	.00540	.51616	.28746
4.99	GRADIENT	.02226	-.00042	.00044	.00001	-.00025	-.00067	.00017	.02073	.00040

DATE 10 JUL 74

TABULATED SOURCE DATA - 0A49

(R92009) (22 MAY 74)

MSFC 561(0A49) CRB 34-0 (BCFM) (WE) (VR)

REFERENCE DATA

XREF = 2741.8000 SQ. FT
 YREF = 481.6480 IN.
 ZREF = 936.7000 IN.
 SCALE = .0040
 XMRP = 1081.3900 IN.
 YMRP = .0000 IN.
 ZMRP = .0000 IN.
 BETA = .000
 ELEVTR = -33.650
 AILRON = -.320
 BDPLAP = -11.700
 SPDGRK = 25.550
 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 23/ 0 RV/L = 4.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	20.990	.53961	.02873	-.00098	.00078	-.00137	.08987	.01746	.47152	.27726
2.990	22.980	.61201	.02815	.00029	-.00010	-.00118	.08693	.01766	.52950	.31896
2.990	25.060	.68668	.02876	.00078	-.00058	-.00118	.08418	.01766	.58631	.36723
2.990	27.130	.76418	.02990	.00294	-.00047	-.00076	.08192	.01756	.64272	.42148
2.990	29.260	.84758	.02872	.00314	-.00105	-.00108	.07918	.01737	.70561	.48349
2.990	31.330	.92921	.02799	.00304	-.00037	-.00108	.07702	.01756	.75349	.54903
2.990	33.430	1.01397	.02750	.00285	-.00037	-.00157	.07486	.01776	.80490	.62114
2.990	35.520	1.10002	.02694	.00461	-.00026	-.00137	.07309	.01805	.85268	.69874
2.990	37.670	1.18470	.02490	.00441	-.00026	-.00157	.07054	.01805	.89497	.77841
2.990	39.730	1.26955	.02385	.00500	-.00016	-.00186	.06838	.01795	.93254	.86416
2.990	41.700	1.34853	.02337	.00569	-.00005	-.00206	.06632	.01756	.96266	.94667
2.990	GRADIENT	.03930	-.00027	.00029	-.00001	-.00004	-.00111	.00002	.02408	.03254

RUN NO. 24/ 0 RV/L = 6.23 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.000	20.990	.48869	.02618	-.00206	-.00041	-.00078	.07976	.00932	.42766	.24959
4.000	22.980	.55864	.02807	-.00010	-.00059	-.00069	.07819	.00922	.48378	.29011
4.000	25.070	.63429	.02918	.00098	-.00097	-.00049	.07741	.00922	.54167	.33897
4.000	27.150	.71248	.03120	.00157	-.00087	-.00069	.07623	.00932	.59916	.39303
4.000	29.290	.79509	.03117	.00137	-.00087	-.00069	.07466	.00922	.65685	.45425
4.000	31.380	.87819	.03085	.00226	-.00077	-.00069	.07348	.00932	.71140	.52008
4.000	33.480	.96364	.03173	.00314	-.00037	-.00069	.07280	.00971	.76350	.59239
4.000	35.590	1.05018	.03050	.00363	-.00056	-.00078	.07133	.00971	.81245	.66921
4.000	37.690	1.13720	.02986	.00343	-.00027	-.00118	.07015	.00961	.85680	.75094
4.000	39.800	1.22374	.02853	.00402	-.00007	-.00147	.06936	.00961	.89565	.83669
4.000	41.800	1.30683	.02841	.00589	-.00044	-.00108	.06838	.00942	.92852	.92214
4.000	GRADIENT	.03954	.00006	.00030	-.00002	-.00003	-.00055	.00002	.02445	.03247

MSFC 381(Q49) QEB 34-0 (BCFM) (MC) (VR)

(R92009) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0225 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -33.650
 AILRON = -.320 BDFAP = -11.700
 SPD8RK = 25.550 RUDDER = .000
 CONFIC = 1.000

RUN NO. 25/ 0 RV/L = 4.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.680	.45209	.02347	-.00010	.00039	-.00118	.07398	.00491	.39686	.22869
4.959	22.620	.51871	.02608	.00098	.00011	-.00098	.07358	.00491	.45043	.26755
4.959	24.670	.59367	.02911	.00137	-.00028	-.00078	.07260	.00481	.50910	.31386
4.959	26.710	.66853	.03069	.00314	-.00105	-.00049	.07201	.00471	.56482	.36487
4.959	28.800	.75300	.03291	.00294	-.00106	-.00059	.07192	.00451	.62516	.42590
4.959	30.840	.83198	.03543	.00343	-.00036	-.00078	.07211	.00461	.67726	.48849
4.959	32.900	.91949	.03596	.00324	-.00027	-.00108	.07093	.00471	.73348	.55903
4.959	34.950	1.00367	.03682	.00441	-.00036	-.00118	.07054	.00471	.78214	.63291
4.959	36.995	1.08746	.03777	.00549	-.00015	-.00078	.07044	.00481	.82609	.71062
4.959	39.070	1.17478	.03887	.00726	-.00059	-.00059	.06887	.00461	.86837	.79391
4.959	41.020	1.25729	.03903	.00775	-.00043	-.00049	.06878	.00451	.90331	.87721
		.03985	.00076	.00035	-.00002	.00001	-.00025	-.00001	.02532	.03203

GRADIENT

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

MSFC 581 (0449) CRB 34-0 (BCFH) (NE) (NR)

(R92010) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.5480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = -15.550
 AIRLON = -.400 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 28/ 0 RNVL = 4.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.000	.55462	.01988	-.00216	.00037	-.00098	.07839	.01589	.48957	.27196
2.990	22.980	.62722	.01998	.00000	.00010	-.00059	.07604	.01638	.54765	.31503
2.990	25.070	.70296	.01915	.00010	-.00020	-.00059	.07368	.01668	.60544	.36468
2.990	27.140	.78155	.01925	.00216	-.00057	-.00049	.07123	.01638	.66303	.41991
2.990	29.270	.86200	.02034	.00314	-.00076	-.00069	.06917	.01658	.71807	.48182
2.990	31.340	.94324	.01825	.00265	-.00067	-.00108	.06652	.01727	.77095	.54746
2.990	33.440	1.03124	.01656	.00363	-.00026	-.00118	.06416	.01776	.82511	.62183
2.990	35.530	1.11905	.01468	.00422	-.00055	-.00108	.06132	.01795	.87495	.70031
2.990	37.600	1.20372	.01129	.00451	-.00045	-.00137	.05818	.01786	.91802	.78077
2.990	39.720	1.28212	.00941	.00471	-.00016	-.00147	.05583	.01795	.95805	.86877
2.990	41.710	1.37384	.00827	.00550	-.00015	-.00118	.05396	.01786	.98954	.95452
GRADIENT		.03974	-.00064	.00032	-.00002	-.00004	-.00120	.00010	.02449	.03308

RUN NO. 29/ 0 RNVL = 4.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	20.680	.46240	.01986	-.00088	-.00050	-.00078	.06750	.00451	.40863	.22654
4.999	22.630	.53088	.02463	.00088	-.00088	-.00059	.06701	.00451	.46416	.26617
4.999	24.680	.60250	.02635	.00099	-.00127	-.00029	.06554	.00471	.51999	.31121
4.999	26.710	.67706	.02909	.00177	-.00116	-.00020	.06495	.00441	.57562	.36242
4.999	28.810	.76124	.03072	.00285	-.00155	-.00049	.06403	.00451	.63576	.42374
4.999	30.840	.84346	.03194	.00275	-.00076	-.00049	.06416	.00451	.69119	.48761
4.999	32.900	.92940	.03128	.00255	-.00027	-.00108	.06259	.00461	.74633	.55747
4.999	34.960	1.02056	.03118	.00304	-.00037	-.00078	.06112	.00481	.80088	.63468
4.999	37.020	1.10767	.02882	.00412	-.00095	-.00069	.05946	.00481	.84856	.71444
4.999	39.080	1.19499	.02846	.00461	-.00134	-.00049	.05779	.00441	.89114	.79823
4.999	41.030	1.27426	.02576	.00638	-.00171	-.00010	.05622	.00441	.92430	.87897
GRADIENT		.04035	.00028	.00002	-.00002	.00000	-.00034	.00000	.02591	.03233

HSFC 581(Q449) CRB 34-0 (BCFM) (WE) (VR)

(R92011) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6400 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -4.310
 AILRON = -.630 BDFLAP = -11.700
 SPD8RK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 27/ 0 RV/L = 4.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.020	.58445	-.00282	-.00245	.00018	-.00118	.07692	.01599	.51793	.28148
2.990	23.000	.65822	-.00168	.00000	.00000	-.00078	.07476	.01619	.57669	.32612
2.990	25.080	.73446	-.00375	.00059	.00000	-.00059	.07250	.01648	.63448	.37704
2.990	27.150	.81569	-.00516	.00235	-.00067	-.00069	.07005	.01658	.69384	.43463
2.990	29.260	.89869	-.00741	.00334	-.00086	-.00088	.06829	.01688	.75055	.49889
2.990	31.360	.96611	-.01056	.00314	-.00046	-.00108	.06642	.01756	.80735	.56993
2.990	33.460	1.07667	-.01560	.00383	-.00075	-.00118	.06397	.01795	.86288	.64704
2.990	35.550	1.16565	-.01969	.00481	-.00035	-.00108	.06210	.01815	.91214	.72837
2.990	37.650	1.25611	-.02350	.00510	-.00035	-.00147	.05995	.01825	.95786	.81481
2.990	39.750	1.34853	-.03118	.00491	-.00035	-.00157	.05818	.01835	.99955	.90703
2.990	41.740	1.43428	-.03571	.00510	-.00045	-.00157	.05602	.01835	1.03281	.99671
GRADIENT		.04123	-.00172	.00033	-.00002	-.00004	-.00100	.00013	.02523	.03467

RUN NO. 26/ 0 RV/L = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.690	.48732	.00430	-.00078	-.00001	-.00039	.06819	.00471	.43179	.23605
4.959	22.640	.55668	.00734	.00226	-.00047	.00000	.06652	.00471	.48820	.27569
4.959	24.690	.63478	.00791	.00275	-.00057	.00000	.06524	.00451	.54942	.32455
4.959	26.720	.71425	.00754	.00314	-.00086	.00010	.06485	.00461	.60868	.37920
4.959	28.820	.79980	.00822	.00432	-.00085	.00020	.06436	.00471	.66961	.44199
4.959	30.850	.88457	.00571	.00285	-.00086	-.00010	.06318	.00471	.72690	.50802
4.959	32.910	.97669	.00205	.00334	-.00056	-.00078	.06269	.00481	.78567	.58346
4.959	34.970	1.06676	.00001	.00451	-.00036	-.00049	.06161	.00481	.83875	.66205
4.959	37.010	1.15918	-.00258	.00628	-.00073	-.00029	.06024	.00481	.88928	.74603
4.959	39.090	1.25229	-.00670	.00736	-.00072	.00000	.05925	.00481	.93450	.83571
4.959	41.050	1.33656	-.01067	.00854	-.00111	.00000	.05769	.00471	.97002	.92136
GRADIENT		.04213	-.00082	.00035	-.00003	-.00000	-.00046	.00001	.02697	.03393

DATE 18 JUL 74

TABULATED SOURCE DATA - QN49

MSFC 561(QN49) CRB 34-0 (BCFM) (WE) (VR)

(R92012) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6483 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDELAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONF1 = 1.000

PARAMETRIC DATA

RUN NO. 32/ 0 RVL = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.030	.61241	-.02165	-.00039	.00009	-.00078	.08084	.01678	.34255	.29522
2.990	23.010	.68923	-.02517	.00088	.00001	-.00059	.07888	.01688	.60348	.34211
2.990	25.100	.76819	-.02873	.00147	-.00028	-.00049	.07682	.01678	.66392	.39588
2.990	27.170	.85297	-.03271	.00285	-.00086	-.00029	.07515	.01678	.72445	.45641
2.990	29.280	.93853	-.03715	.00383	-.00115	-.00039	.07358	.01697	.78253	.52332
2.990	31.380	1.02908	-.04237	.00402	-.00065	-.00029	.07221	.01737	.84091	.59759
2.990	33.470	1.12160	-.04912	.00471	-.00114	-.00049	.06917	.01776	.89663	.67736
2.990	35.570	1.21235	-.05531	.00569	-.00093	-.00059	.06799	.01805	.94579	.76163
2.990	37.650	1.30360	-.06333	.00520	-.00064	-.00118	.06622	.01815	.99053	.85013
2.990	39.770	1.39886	-.07051	.00618	-.00024	-.00098	.06524	.01805	1.03271	.94579
2.990	41.760	1.48520	-.07861	.00648	-.00014	-.00098	.06524	.01815	1.06440	1.03791
GRADIENT		.04233	-.00274	.00032	-.00001	-.00002	-.00074	.00008	.02556	.03600

RUN NO. 31/ 0 RVL = 6.29 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.000	21.020	.55158	-.01682	-.00039	-.00049	-.00059	.07211	.00912	.48898	.26519
4.000	23.010	.62614	-.01873	.00069	-.00048	-.00029	.07142	.00922	.54834	.31062
4.000	25.110	.70522	-.02182	.00157	-.00097	-.00020	.07064	.00903	.60858	.36321
4.000	27.190	.79059	-.02539	.00216	-.00096	-.00010	.06946	.00903	.67098	.42286
4.000	29.310	.88015	-.02860	.00226	-.00086	.00000	.06836	.00903	.73348	.49153
4.000	31.420	.96963	-.03520	.00324	-.00125	-.00010	.06868	.00922	.79156	.56414
4.000	33.530	1.06529	-.04044	.00451	-.00094	-.00010	.06858	.00961	.85003	.64567
4.000	35.640	1.15859	-.04649	.00471	-.00104	-.00029	.06770	.00952	.90203	.73014
4.000	37.730	1.25140	-.05265	.00451	-.00036	-.00059	.06760	.00961	.94834	.81932
4.000	39.860	1.34853	-.06126	.00481	-.00045	-.00088	.06622	.00952	.99268	.91518
4.000	41.860	1.43850	-.06785	.00677	-.00073	-.00059	.06603	.00942	1.02712	1.00927
GRADIENT		.04287	-.00248	.00030	-.00002	-.00002	-.00074	.00003	.02631	.03590

MSFC 581(0A49) CRB 34-0 (BCFM) (WE) (VR)

(R92012) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 ALLRON = -.670 BDPLAP = -11.700
 SPDRK = 25.590 RUDDER = .000
 CONF16 = 1.000

RUN NO. 30/ 0 RWL = 4.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	20.690	.49713	-.01247	.00128	.00060	-.00059	.06936	.00412	.44052	.24057
4.99	22.630	.57189	-.01466	.00177	.00031	-.00059	.06868	.00412	.50135	.28354
4.99	24.690	.65018	-.01593	.00226	-.00028	-.00029	.06691	.00412	.56267	.33240
4.99	26.730	.74505	-.01925	.00343	-.00007	-.00029	.06750	.00412	.63507	.39548
4.99	28.800	.82285	-.02245	.00520	-.00045	-.00020	.06691	.00422	.68874	.45504
4.99	30.850	.90527	-.02752	.00510	-.00035	-.00059	.06642	.00451	.74309	.52126
4.99	32.910	.99406	-.03026	.00432	.00013	-.00059	.06632	.00422	.79843	.59583
4.99	34.970	1.09021	-.03733	.00471	-.00055	-.00049	.06554	.00432	.85572	.67853
4.99	37.030	1.18655	-.04247	.00569	-.00054	-.00029	.06534	.00441	.90782	.76683
4.99	39.090	1.27868	-.04874	.00706	-.00053	.00000	.06495	.00422	.95138	.85670
4.99	41.040	1.36904	-.05426	.00883	-.00091	.00059	.06495	.00451	.98974	.94804
	GRADIENT	.04288	-.00208	.00032	-.00005	.00003	-.00021	.00002	.02723	.03482

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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(R92013) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 16.790
 AILRON = -1.680 BDPLAP = -11.700
 SPDBRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 22/ 0 RV/L = 4.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.090	.67392	-.07019	-.00186	.00155	-.00334	.10262	.01629	.59200	.33789
2.990	23.030	.75310	-.07676	-.00010	.00088	-.00324	.10253	.01638	.63293	.38901
2.990	25.120	.83845	-.08314	.00128	.00099	-.00324	.10341	.01648	.71513	.44964
2.990	27.210	.92705	-.09033	.00226	.00051	-.00304	.10439	.01668	.77664	.51685
2.990	29.330	1.01927	-.09833	.00324	.00062	-.00353	.10537	.01717	.83698	.59122
2.990	31.400	1.11277	-.10903	.00314	.00052	-.00383	.10635	.01766	.89428	.67059
2.990	33.500	1.20961	-.11996	.00383	.00062	-.00402	.10763	.01815	.94912	.75751
2.990	35.600	1.30821	-.12970	.00559	.00054	-.00402	.10851	.01844	1.00044	.84993
2.990	37.700	1.40622	-.14061	.00510	.00092	-.00491	.10939	.01864	1.04566	.94657
2.990	39.800	1.50639	-.15284	.00579	.00152	-.00549	.11008	.01874	1.08677	1.04910
2.990	41.800	1.60333	-.15841	.00540	.00201	-.00706	.11057	.01884	1.12150	1.15113
GRADIENT		.04495	-.00465	.00034	.00002	-.00015	.00343	.00014	.02585	.03935

RUN NO. 20/ 0 RV/L = 6.24 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.000	21.040	.60731	-.06632	-.00128	.00146	-.00324	.09340	.00903	.53323	.30522
4.000	23.030	.68560	-.07233	.00059	.00128	-.00334	.09468	.00912	.59396	.35536
4.000	25.120	.77027	-.07794	.00186	.00080	-.00334	.09615	.00903	.65656	.41413
4.000	27.200	.85857	-.08620	.00177	.00100	-.00363	.09782	.00893	.71876	.47957
4.000	29.330	.95128	-.09410	.00265	.00081	-.00373	.09997	.00912	.78018	.55344
4.000	31.430	1.04419	-.10277	.00363	.00101	-.00392	.10262	.00952	.83738	.63223
4.000	33.540	1.14201	-.11204	.00451	.00102	-.00402	.10459	.00971	.89398	.71827
4.000	35.660	1.24002	-.12102	.00471	.00112	-.00432	.10655	.00971	.94530	.80951
4.000	37.770	1.33862	-.13144	.00500	.00161	-.00481	.10861	.00991	.99161	.90576
4.000	39.900	1.43791	-.14185	.00559	.00220	-.00530	.11008	.01011	1.03242	1.00681
4.000	41.880	1.53239	-.15301	.00716	.00173	-.00520	.11194	.00991	1.06597	1.10649
GRADIENT		.04461	-.00416	.00034	.00003	-.00010	.00093	.00006	.02596	.03863

NSFC 581 (0A49) ORB 34-0 (BCFW) (ME) (VR)

(R92013) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0700 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BRP = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 16.790
 AILRON = -1.680 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 21/ 0 RIVL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.710	.56904	-.06103	-.00010	.00157	-.00314	.08850	.00481	.90105	.28403
4.959	22.650	.64596	-.06435	.00098	.00069	-.00343	.08928	.00471	.56168	.33122
4.959	24.710	.72886	-.07038	.00147	.00040	-.00353	.09085	.00461	.62408	.38724
4.959	26.740	.81736	-.07757	.00137	.00089	-.00334	.09242	.00471	.68825	.45033
4.959	28.840	.90880	-.08424	.00383	.00082	-.00334	.09517	.00491	.75006	.52175
4.959	30.880	1.00279	-.09115	.00373	.00111	-.00373	.09703	.00491	.81079	.59798
4.959	32.940	1.10119	-.10070	.00363	.00150	-.00441	.10086	.00500	.86936	.68344
4.959	34.990	1.19656	-.11030	.00422	.00160	-.00461	.10204	.00510	.92155	.76997
4.959	37.030	1.29104	-.11798	.00540	.00201	-.00451	.10478	.00510	.96737	.86122
4.959	39.130	1.39298	-.12844	.00589	.00162	-.00471	.10674	.00520	1.01299	.96207
4.959	41.070	1.48559	-.13789	.00706	.00124	-.00451	.10822	.00500	1.04880	1.05763
GRADIENT		.04532	-.00384	.00032	.00004	-.00008	.00104	.00002	.02734	.03824

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

NSFC 581(0449) CRB 34-0 (BCFN) (WE) (WR)

(R92014) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.180
 AILRON = -.670 BCFAP = .000
 SPBRK = 25.590 RUDDER = .000
 CONFIC = 1.000

PARAMETRIC DATA

RUN NO. 33/ 0 RN/L = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.030	.62075	-.02984	-.00039	.00009	-.00078	.08133	.01707	.59011	.29875
2.990	23.020	.70228	-.03482	.00128	-.00009	-.00049	.07967	.01727	.61515	.34800
2.990	25.100	.77998	-.03852	.00186	-.00028	-.00039	.07761	.01717	.61333	.40127
2.990	27.170	.86377	-.04385	.00324	-.00066	-.00010	.07613	.01707	.73577	.46220
2.990	29.280	.95089	-.05000	.00353	-.00134	-.00039	.07486	.01737	.79264	.53048
2.990	31.380	1.03697	-.05661	.00294	-.00086	-.00049	.07319	.01766	.84964	.60407
2.990	33.480	1.13514	-.06273	.00320	-.00074	-.00029	.07221	.01786	.90694	.68648
2.990	35.580	1.22913	-.07129	.00579	-.00093	-.00029	.07123	.01815	.95815	.77311
2.990	37.650	1.32145	-.08084	.00550	-.00064	-.00088	.06976	.01835	1.00357	.86249
2.990	39.770	1.41701	-.08908	.00549	-.00054	-.00098	.06848	.01815	1.04517	.95923
2.990	41.760	1.50610	-.09782	.00618	-.00044	-.00128	.06770	.01815	1.07824	1.05581
2.990	GRADIENT	.04285	-.00328	.00029	-.00002	-.00003	-.00065	.00007	.02579	.03656

RUN NO. 34/ 0 RN/L = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.690	.50174	-.01888	.00000	.00010	-.00069	.06799	.00441	.44532	.24086
4.959	22.630	.57660	-.02068	.00186	.00031	-.00039	.06799	.00432	.50596	.28462
4.959	24.680	.65155	-.02461	.00294	-.00037	-.00039	.06632	.00432	.56433	.33240
4.959	26.720	.73377	-.02745	.00343	-.00027	-.00020	.06593	.00432	.62575	.38891
4.959	28.790	.82256	-.03097	.00530	-.00045	-.00020	.06642	.00432	.68874	.45445
4.959	30.850	.91174	-.03690	.00510	-.00035	-.00020	.06682	.00432	.74858	.52479
4.959	32.910	1.00524	-.04324	.00432	-.00026	-.00039	.06564	.00422	.80824	.60132
4.959	34.970	1.09884	-.04793	.00687	-.00014	-.00039	.06632	.00432	.86239	.68413
4.959	37.000	1.19263	-.05698	.00598	-.00044	-.00029	.06554	.00441	.91292	.77027
4.959	39.080	1.28780	-.06368	.00775	-.00082	-.00010	.06515	.00412	.95844	.86259
4.959	41.040	1.37797	-.06853	.00903	-.00042	-.00049	.06534	.00392	.99622	.95413
4.959	GRADIENT	.04336	-.00254	.00037	-.00003	.00001	-.00012	-.00001	.02755	.03522

DATE 16 JUL 74

TABULATED SOURCE DATA - 0A49

(R92015) (22 MAY 74)

HSFC 501(0A49) CRB 34-0 (BCFM) (WE) (NR)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = 16.300
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 36/ 0 RW/L = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.550	.64115	-.05080	-.00020	-.00010	-.00098	.08830	.01746	.56669	.31258
2.990	23.010	.71945	-.05805	.00108	-.00048	-.00069	.08663	.01766	.62830	.36115
2.990	25.100	.80353	-.06454	.00206	-.00047	-.00039	.08624	.01776	.69099	.41903
2.990	27.170	.89281	-.07231	.00383	-.00105	-.00010	.08604	.01776	.75486	.48427
2.990	29.280	.97964	-.08156	.00373	-.00134	-.00029	.08565	.01786	.81245	.55393
2.990	31.380	1.07480	-.09068	.00353	-.00144	-.00049	.08565	.01786	.87289	.63291
2.990	33.480	1.16850	-.10079	.00379	-.00162	-.00069	.08555	.01805	.92734	.71611
2.990	35.580	1.26406	-.10990	.00677	-.00161	-.00049	.08634	.01825	.97777	.80569
2.990	37.650	1.36080	-.12161	.00628	-.00122	-.00098	.08624	.01825	1.02457	.89968
2.990	39.770	1.45636	-.13294	.00618	-.00073	-.00098	.08594	.01825	1.06421	.99779
2.990	41.760	1.54799	-.14231	.00726	-.00053	-.00108	.08624	.01825	1.09707	1.09550
GRADIENT		.04397	-.00446	.00034	-.00003	-.00002	-.00005	.00004	.02597	.03797

RUN NO. 35/ 0 RW/L = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.690	.52273	-.03102	.00196	-.00008	.00020	.07398	.00461	.46279	.25391
4.959	22.640	.59946	-.03782	.00245	-.00135	.00049	.07378	.00461	.52479	.29894
4.959	24.690	.68030	-.04204	.00363	-.00125	.00078	.07407	.00461	.58709	.35153
4.959	26.730	.76762	-.04858	.00481	-.00163	.00069	.07466	.00461	.65195	.41197
4.959	28.800	.86239	-.05500	.00530	-.00123	.00098	.07613	.00491	.71896	.48231
4.959	30.860	.95177	-.06256	.00648	-.00181	.00108	.07712	.00491	.77733	.55452
4.959	32.920	1.05165	-.07248	.00569	-.00133	.00039	.07829	.00491	.84012	.63733
4.959	34.980	1.14476	-.08318	.00697	-.00092	.00039	.07888	.00441	.89271	.72102
4.959	37.020	1.24336	-.09244	.00746	-.00112	.00029	.07976	.00451	.94461	.81236
4.959	39.090	1.33852	-.10301	.00932	-.00159	.00049	.08075	.00461	.98778	.90684
4.959	41.050	1.43065	-.11227	.01050	-.00158	.00078	.08124	.00451	1.02545	1.00093
GRADIENT		.04498	-.00402	.00038	-.00003	.00000	.00041	-.00001	.02815	.03696

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 501(0A49) CEB 34-0 (BCFM) (WE) (NR)

082016) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1061.3900 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7050 IN. ZMRP = .0000 IN.
SCALE = .0040

BETA = .000 ELEVTR = 16.790
AILRON = -1.680 BDFLAF = 16.300
SPDRK = 25.550 RUDDER = .000
CONF16 = 1.000

PARAMETRIC DATA

RUN NO. 37/ 0 RWL = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.050	.70179	-.10108	-.00010	.00137	-.00324	.11126	.01727	.61486	.35595
2.990	23.040	.78714	-.11142	.00088	.00089	-.00334	.11263	.01717	.68030	.41177
2.990	25.120	.87387	-.12280	.00147	.00070	-.00314	.11420	.01727	.74270	.47446
2.990	27.190	.96570	-.13420	.00285	.00051	-.00294	.11626	.01737	.80578	.54491
2.990	29.310	1.06274	-.14716	.00353	.00013	-.00324	.11920	.01756	.86828	.62418
2.990	31.410	1.15898	-.15937	.00422	.00082	-.00363	.12166	.01786	.92567	.70787
2.990	33.510	1.25974	-.17283	.00559	.00014	-.00373	.12411	.01825	.98179	.79901
2.990	35.610	1.35903	-.18701	.00667	.00025	-.00412	.12696	.01835	1.03095	.89457
2.990	37.690	1.46008	-.20107	.00628	.00133	-.00510	.12931	.01854	1.07627	.99504
2.990	39.810	1.56545	-.21776	.00657	.00182	-.00569	.13196	.01864	1.11797	1.10365
2.990	41.800	1.66886	-.23778	.00657	.00172	-.00706	.13422	.01864	1.15437	1.21255
	GRADIENT	.04657	-.00642	.00335	.00033	-.00016	.00115	.00008	.02619	.04133

RUN NO. 38/ 0 RWL = 4.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.700	.58101	-.08744	.00137	.00138	-.00353	.09301	.00461	.51067	.29247
4.959	22.650	.66176	-.09418	.00186	.00109	-.00304	.09497	.00441	.57414	.34250
4.959	24.700	.75065	-.10243	.00304	.00091	-.00265	.09782	.00451	.64106	.40265
4.959	26.740	.84866	-.11218	.00422	.00092	-.00275	.10105	.00461	.71238	.47221
4.959	28.810	.93823	-.12555	.00491	.00004	-.00275	.10449	.00461	.77164	.54383
4.959	30.870	1.03566	-.13386	.00598	.00113	-.00245	.10792	.00451	.83345	.62418
4.959	32.930	1.13632	-.14598	.00530	.00142	-.00334	.11204	.00461	.89271	.71189
4.959	34.990	1.23629	-.16054	.00638	.00084	-.00206	.11567	.00471	.94638	.80382
4.959	37.050	1.33126	-.17024	.00765	.00124	-.00304	.11930	.00471	.99082	.89712
4.959	39.110	1.43889	-.18497	.00932	.00106	-.00275	.12342	.00412	1.03850	1.00367
4.959	41.070	1.53298	-.19768	.00932	.00076	-.00265	.12637	.00422	1.07264	1.10247
	GRADIENT	.04698	-.00548	.00039	-.00000	.00002	.00170	-.00001	.02799	.03999

MSFC 581(0449) ORB 34-0 (BCFN) (NE) (NR)

(R92017) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT YMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7500 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 13.130
 AIRLON = -.690 BDFLAP = 16.300
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 371/ 0 RWL = 4.14 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.150	.68952	-.09593	.00186	.00021	.00029	.10282	.01786	.60303	.34456
2.990	23.110	.76878	-.10183	.00128	.00031	.00039	.10341	.01795	.66745	.39735
2.990	25.200	.86023	-.11325	.00157	-.00028	.00059	.10547	.01815	.73348	.46181
2.990	27.290	.95050	-.12380	.00255	-.00067	.00098	.10684	.01835	.79568	.53078
2.990	29.390	1.04655	-.13349	.00314	-.00086	.00098	.10851	.01854	.85857	.60819
2.990	31.500	1.14044	-.14466	.00383	-.00095	.00098	.10871	.01874	.91547	.68864
2.990	33.600	1.23855	-.15780	.00363	-.00125	.00089	.10988	.01884	.97071	.77704
2.990	35.700	1.33715	-.17092	.00392	-.00134	.00078	.11204	.01894	1.02045	.87132
2.990	37.800	1.43909	-.18325	.00412	-.00144	.00039	.11342	.01894	1.06744	.97169
2.990	39.920	1.53828	-.19682	.00363	-.00105	.00020	.11459	.01874	1.10610	1.07520
2.990	41.910	1.63688	-.21188	.00275	-.00125	.00000	.11626	.01864	1.14034	1.18008
GRADIENT		.04574	-.00574	.00011	-.00007	-.00002	.00065	.00005	.02615	.04033

RUN NO. 88/ 0 RWL = 4.88 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	20.700	.56590	-.07375	.00363	.00032	.00089	.08516	.00540	.49919	.27971
4.999	22.640	.64390	-.08257	.00412	-.00056	.00108	.08722	.00540	.56070	.32847
4.999	24.700	.73191	-.09190	.00461	-.00124	.00118	.08938	.00540	.62752	.38705
4.999	26.730	.82374	-.10175	.00520	-.00074	.00147	.09203	.00559	.69423	.45278
4.999	28.810	.91812	-.11272	.00628	-.00220	.00216	.09507	.00559	.75859	.52578
4.999	30.870	1.01466	-.12239	.00677	-.00191	.00245	.09811	.00569	.82060	.60485
4.999	32.930	1.11801	-.13306	.00808	-.00103	.00226	.10096	.00559	.88172	.69148
4.999	34.980	1.21334	-.14688	.00657	-.00142	.00235	.10468	.00540	.93401	.78155
4.999	37.020	1.31311	-.15719	.00775	-.00190	.00265	.10684	.00540	.98395	.87613
4.999	39.100	1.41387	-.16921	.00932	-.00267	.00285	.10920	.00520	1.02810	.97659
4.999	41.080	1.50973	-.18142	.00942	-.00326	.00265	.11224	.00510	1.06450	1.07647
GRADIENT		.04671	-.00529	.00028	-.00014	.00010	.00136	-.00001	.02828	.03937

(092018) (22 MAY 74)

MSFC 561 (0449) ORB 34-5 (BCFN) (NE) (NR)

PARAMETRIC DATA

BETA = .000 ELEVTR = 13.130
ALURON = -.650 BCFAP = 16.300
SPDRK = 25.590 RUDDER = .000
CONF16 = 1.000

REFERENCE DATA

SREF = 2741.0000 SQ. FT YREF = 1061.3900 IN.
LREF = 481.6400 IN. YREF = .0000 IN.
BREF = 936.7500 IN. ZREF = .0000 IN.
SCALE = .0040

RUN NO. 240/ 0 RWL = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.996	.190	.23213	-.12270	-.00432	.00183	.00226	.07182	.03395	.23164	.07260
.996	2.170	.32377	-.12337	-.00412	.00183	.00167	.06829	.03365	.32102	.06055
.996	4.270	.42345	-.12574	-.00334	.00154	.00157	.06220	.03198	.41766	.09360
.996	6.350	.53598	-.13158	-.00412	.00175	.00226	.05543	.03365	.52656	.11440
.996	8.470	.64567	-.13506	-.00481	.00124	.00167	.04650	.03346	.63173	.14118
.996	10.570	.75545	-.13911	-.00506	-.00031	-.00186	.04317	.03453	.73465	.18101
.996	12.630	.85317	-.14228	-.00520	.00113	.00039	.04915	.03640	.82168	.23468
.996	14.750	.96196	-.14538	-.00520	.00153	-.00343	.05043	.04042	.91743	.29374
.996	16.870	1.09688	-.15009	-.01501	.00208	.00392	.05082	.04444	1.03487	.36703
.996	18.970	1.24542	-.16958	-.00854	.00209	.00549	.05043	.04886	1.16134	.45278
.996	20.980	1.33774	-.15998	.00285	-.00007	-.00137	.04807	.05288	1.23178	.52401
GRADIENT		.04690	-.00075	.00024	-.00007	-.00017	-.00236	-.00048	.04555	.00516

RUN NO. 259/ 0 RWL = 6.28 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.903	.210	.19799	-.12479	.00039	.00147	-.00304	.07958	.03875	.19769	.09036
.903	2.260	.32494	-.13034	.00098	.00119	-.00304	.06899	.03777	.32112	.10184
.903	4.480	.45661	-.15461	-.00520	.00319	.00265	.08908	.03660	.44817	.12460
.903	6.630	.57179	-.16535	-.00775	.00317	.00441	.09085	.03836	.55747	.15629
.903	8.810	.67504	-.17340	-.00559	.00290	.00226	.09527	.04140	.65047	.19730
.903	10.980	.77714	-.18102	-.00755	.00288	.00375	.09919	.04405	.74407	.24518
.903	13.120	.90183	-.20273	-.00657	.00240	.00314	.10724	.04817	.85396	.30925
.903	15.310	1.01780	-.20678	-.00736	.00308	.00196	.10822	.05112	.95315	.37312
.903	17.470	1.12396	-.21021	-.00533	.00174	.00157	.11155	.05651	1.03890	.44395
.903	19.610	1.20029	-.20028	-.00265	.00145	.00069	.11145	.06564	1.09315	.50802
.903	21.640	1.29281	-.17240	.00441	-.00114	-.00314	.12038	.07712	1.11817	.57326
GRADIENT		.08756	-.00699	-.00133	.00041	.00135	-.00011	-.00051	.03865	.00804

MSFC 581 (0449) CRB 34-0 (BCFM) (WE) (VR)

(R92018) (22 MAY 74)

REFERENCE DATA

SREF = 2741.80536 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 13.130
 AIRLON = -.650 BDFLAP = 16.300
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 372/ 0 R/VL = 4.14 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.020	-.00706	-.03648	-.00220	.00157	.00020	.11175	.01697	-.00706	.11175
2.990	1.960	.04552	-.03777	.00078	.00128	.00020	.11096	.01717	.04170	.11253
2.990	4.030	.10478	-.03933	-.00049	.00166	.00020	.10822	.01717	.09693	.11528
2.990	6.090	.16492	-.04205	-.00099	.00166	.00020	.10498	.01707	.15286	.12195
2.990	8.180	.23066	-.04574	-.00078	.00176	.00029	.10321	.01697	.21369	.13500
2.990	10.260	.29855	-.05104	-.00128	.00185	.00020	.10204	.01697	.27559	.15354
2.990	12.330	.37292	-.06030	-.00098	.00146	.00039	.10272	.01746	.34241	.18003
2.990	14.400	.44415	-.06683	.00000	.00137	.00049	.10302	.01766	.40451	.21035
2.990	16.480	.52264	-.07522	.00000	.00069	.00029	.10282	.01766	.47201	.24694
2.990	18.590	.60269	-.08274	.00000	.00049	.00039	.10351	.01795	.53824	.29031
2.990	20.990	.68324	-.09180	.00069	.00020	.00039	.10390	.01795	.60299	.33780
GRADIENT		.02790	-.00071	-.00008	.00003	-.00000	-.00089	.00005	.02594	.00089

RUN NO. 89/ 0 R/VL = 4.88 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.03355	-.03352	-.00108	.00215	.00078	.08732	.00540	-.03365	.08732
4.959	1.960	.00942	-.03302	-.00128	.00195	.00088	.08585	.00540	.00648	.08614
4.959	3.990	.05121	-.03410	-.00137	.00146	.00088	.08398	.00579	.04523	.08732
4.959	6.000	.10145	-.03494	.00039	.00157	.00118	.08212	.00579	.09232	.09232
4.959	8.050	.15354	-.03720	-.00157	.00087	.00059	.07976	.00589	.14079	.10047
4.959	10.090	.21094	-.04064	-.00167	.00067	.00030	.07530	.09668	.19367	.11587
4.959	12.130	.27088	-.04403	.00010	.00059	.00098	.07986	.00589	.24802	.13500
4.959	14.170	.33897	-.04759	.00020	.00098	.00108	.08065	.00569	.30885	.16120
4.959	16.190	.40951	-.05065	.00108	-.00009	.00098	.08153	.00579	.37047	.15249
4.959	18.260	.48741	-.06195	.00098	-.00009	.00108	.08359	.00569	.43659	.23223
4.959	20.200	.56990	-.07093	.00216	-.00087	.00128	.08565	.00569	.49673	.27422
GRADIENT		.02140	-.00015	-.00007	-.00017	.00002	-.00084	.00010	.01991	.00001

REFERENCE DATA

SREF = 2741.8000 SQ. FT

LREF = 481.6480 IN.

BREF = 936.7000 IN.

SCALE = .0040

BETA = .000

AILRON = -.670

SPDRK = 55.000

CONFIC = 1.000

ELEVTR = 4.180

BDPLAP = .000

RUDDER = .000

PARAMETRIC DATA									
GRADIENT INTERVAL = -5.00/ 5.00									
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CD
2.990	-10.400	-31170	-.00923	-.00340	.00221	-.00088	.12244	.01531	.17680
2.990	-8.440	-25823	-.01118	-.00471	.00222	-.00059	.11862	.01560	.15531
2.990	-6.380	-20270	-.01233	-.00412	.00212	-.00039	.11508	.01580	.13696
2.990	-4.340	-14991	-.01245	-.00392	.00183	-.00049	.11283	.01619	.12391
2.990	-2.260	-09860	-.01134	-.00363	.00213	-.00010	.11116	.01658	.11499
2.990	-.200	-.04562	-.01011	-.00343	.00184	-.00029	.10822	.01697	.10841
2.990	1.850	.01050	-.00989	-.00245	.00184	-.00029	.10635	.01737	.10665
2.990	3.910	.06564	-.00998	-.00137	.00205	-.00020	.10360	.01776	.10792
2.990	5.960	.12225	-.00936	-.00196	.00175	-.00000	.09968	.01746	.11185
2.990	8.050	.16513	-.01223	-.00128	.00176	-.00010	.09615	.01756	.12117
2.990	10.010	.24826	-.01435	-.00069	.00166	-.00059	.09350	.01746	.13500
GRADIENT		.02621	.00031	.00030	.00001	.00002	-.00113	.00019	-.00196
GRADIENT INTERVAL = -5.00/ 5.00									
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CD
4.959	-10.210	-23615	-.02863	-.00245	.00175	-.00029	.10792	.00363	.14815
4.959	-8.290	-20348	-.02907	-.00255	.00263	-.00020	.10341	.00363	.13166
4.959	-6.270	-16973	-.02853	-.00206	.00204	-.00020	.09899	.00412	.11695
4.959	-4.260	-13166	-.02599	-.00147	.00215	-.00010	.09350	.00432	.10311
4.959	-2.210	-.09046	-.02466	-.00167	.00214	.00020	.08859	.00432	.09203
4.959	-.190	-.05357	-.02523	-.00177	.00185	.00010	.08398	.00471	.08418
4.959	1.830	-.01128	-.02349	-.00118	.00244	.00010	.08173	.00451	.08133
4.959	3.880	.03238	-.02124	-.00206	.00155	.00039	.07947	.00461	.08143
4.959	5.870	.07780	-.01916	.00039	.00167	.00059	.07613	.00471	.08369
4.959	7.920	.12411	-.01756	.00020	.00147	.00049	.07378	.00461	.09026
4.959	9.860	.17189	-.01515	.00069	.00128	.00049	.07241	.00500	.10076
GRADIENT		.02008	.00033	-.00003	-.00004	.00004	-.00172	.00004	-.00267

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) ORB 34-0 (BCFM) (WE) (VR)

(R92020) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = .000 ELEVTR = 4.160
 AIRRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 246/ 0 RW/L = 4.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.57	-10.070	-.05426	.01616	.10631	-.01368	.00706	.03180	.02963	-.05406	.05190
.57	-8.140	-.05987	.02256	.15119	-.01532	.00598	.05524	.02963	-.05877	.05543
.57	-6.100	-.06966	.02558	.11293	-.00800	.00481	.05769	.02924	-.06946	.05789
.57	-4.070	-.07613	.02848	.07325	-.00458	.00304	.05818	.02816	-.07394	.05847
.57	-2.030	-.08192	.03245	.03807	-.00234	.00167	.05995	.02786	-.08173	.06024
.57	.000	-.08565	.03403	.00206	.00080	.00039	.06142	.02669	-.08545	.06171
.57	2.030	-.09085	.03345	-.03257	.00268	-.00069	.06083	.02806	-.09065	.06112
.57	4.060	-.08830	.03176	-.07015	.00570	-.00196	.06024	.02865	-.08810	.06053
.57	6.090	-.08496	.03017	-.10822	.00932	-.00363	.05867	.02992	-.08477	.05896
.57	8.130	-.08408	.02729	-.14412	.01236	-.00510	.05690	.03051	-.08388	.05720
.57	10.060	-.08300	.02363	-.18170	.01479	-.00569	.05494	.03208	-.08281	.05524
GRADIENT		-.00164	.00037	-.01779	.00126	-.00061	.00025	.00006	-.00164	.00025

RUN NO. 245/ 0 RW/L = 6.21 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.906	-10.230	-.08693	.02946	.22183	-.02143	.00392	.06976	.03826	-.08663	.07015
.906	-8.270	-.08732	.03429	.18445	-.01860	.00471	.07123	.03179	-.08702	.07162
.906	-6.210	-.09271	.04030	.14334	-.01432	.00500	.07015	.02845	-.09242	.07054
.906	-4.160	-.09654	.04479	.09566	-.00912	.00422	.06868	.02786	-.09634	.06917
.906	-2.080	-.10655	.05101	.05063	-.00331	.00285	.06985	.02718	-.10625	.07035
.906	-.010	-.11420	.05447	.00775	.00065	.00147	.07025	.02698	-.11391	.07074
.906	2.040	-.12087	.05475	-.03365	.00414	-.00010	.06976	.02727	-.12058	.07035
.906	4.100	-.11881	.05362	-.07741	.00927	-.00206	.06985	.02698	-.11852	.07035
.906	6.170	-.12450	.05179	-.12313	.01420	-.00432	.06927	.02875	-.12411	.06985
.906	8.240	-.12764	.04806	-.16698	.01913	-.00461	.07113	.03061	-.12725	.07172
.906	10.200	-.13333	.04681	-.20346	.02109	-.00392	.07123	.03355	-.13294	.07192
GRADIENT		-.00285	.00104	-.02085	.00215	-.00075	.00011	-.00008	-.00284	.00011

DATE 10 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 561(0449) CFB 34-0 (BCFM) (ME) (VR)

(R92020) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1061.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7050 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 244/ 0 RW/L = 6.66 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.197	-10.310	-.07260	.06035	.21771	-.01970	.01590	.15551	.03063	-.07201	.15980
1.197	-8.330	-.07152	.06308	.17974	-.01785	.01305	.15688	.04906	-.07103	.15708
1.197	-6.250	-.07035	.06503	.13716	-.01379	.00942	.15786	.04650	-.06976	.15806
1.197	-4.190	-.07064	.06744	.09409	-.00884	.00540	.15923	.04382	-.07015	.15943
1.197	-2.100	-.07192	.06955	.05063	-.00390	.00147	.15933	.04513	-.07142	.15953
1.197	-.020	-.07339	.06933	.00893	-.00002	-.00206	.16041	.04592	-.07290	.16071
1.197	2.030	-.07662	.06986	-.03267	.00385	-.00530	.16021	.04415	-.07604	.16051
1.197	4.130	-.08094	.07037	-.07643	.00899	-.00922	.16100	.04660	-.08045	.16120
1.197	6.210	-.08928	.07034	-.12185	.01421	-.01334	.16071	.04974	-.08869	.16100
1.197	8.270	-.09742	.06924	-.16571	.01865	-.01707	.16071	.05161	-.09674	.16110
1.197	10.270	-.10331	.06799	-.20544	.02176	-.01913	.16031	.05357	-.10262	.16080
GRADIENT		-.00122	.00030	-.02043	.00209	-.00173	.00021	.00003	-.00121	.00022

RUN NO. 41/ 0 RW/L = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.140	-.05514	-.01403	.18631	-.00373	.00834	.10939	.01697	-.05475	.10969
2.990	-8.190	-.05386	-.01276	.15188	-.00474	.00716	.10900	.01658	-.05347	.10920
2.990	-6.140	-.05298	-.01197	.11606	-.00365	.00569	.10753	.01678	-.05259	.10773
2.990	-4.120	-.05337	-.00956	.08016	-.00258	.00432	.10802	.01668	-.05298	.10822
2.990	-2.050	-.05475	-.00948	.04415	-.00101	.00255	.10831	.01688	-.05435	.10851
2.990	-.010	-.05681	-.00748	.00746	.00163	.00039	.10890	.01707	-.05632	.10920
2.990	2.020	-.05622	-.00834	-.03081	.00397	-.00177	.10910	.01727	-.05583	.10930
2.990	4.070	-.05789	-.00885	-.06789	.00821	-.00383	.10949	.01737	-.05749	.10969
2.990	6.090	-.05946	-.01101	-.10302	.00779	-.00540	.11008	.01727	-.05906	.11028
2.990	8.180	-.06220	-.01124	-.14089	.00905	-.00687	.11077	.01717	-.05617	.11106
2.990	10.110	-.06691	-.01296	-.17650	.00983	-.00844	.11136	.01707	-.06642	.11165
GRADIENT		-.00051	.00012	-.01814	.00110	-.00101	.00018	.00009	-.00051	.00018

MSFC 501(0A49) ORB 34-0 (BCFM) (WE) (VR)

(R92020) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8050 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = .000 ELEVTR = 4.160
 AIRRON = -.670 BORLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 42/ 0 RV/L = 4.90 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-10.020	-.06279	-.02305	.1963	-.00261	.00824	.09330	.00441	-.06250	.09350
4.99	-8.100	-.06014	-.02446	.12853	-.00179	.00638	.09114	.00432	-.05985	.09134
4.99	-6.370	-.06554	-.02435	.09742	-.00097	.00471	.08918	.00441	-.06524	.08948
4.99	-4.070	-.05936	-.02435	.07162	-.00049	.00353	.08781	.00422	-.05896	.08801
4.99	-2.030	-.05975	-.02523	.03660	.00148	.00108	.08653	.00451	-.05946	.08673
4.99	.000	-.05573	-.02874	.00746	.00153	.00039	.08516	.00432	-.05543	.08536
4.99	2.510	-.05681	-.02692	-.02100	.00179	-.00010	.08604	.00441	-.05651	.08624
4.99	4.030	-.06053	-.02592	-.03210	.00261	-.00196	.08781	.00481	-.06024	.08801
4.99	6.030	-.06230	-.02411	-.08124	.00414	-.00304	.08967	.00461	-.06201	.08987
4.99	8.080	-.06603	-.02330	-.11293	.00496	-.00441	.09124	.00471	-.06573	.09154
4.99	10.000	-.06848	-.02247	-.14206	.00551	-.00589	.09340	.00422	-.06809	.09360
	GRADIENT	.00003	-.00024	-.01507	.00032	-.00060	-.00003	.00055	.00002	-.00003



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TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) ORB 34-0 (BCFM) (ME) (NR)

(R92021) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

ALPHA = 10.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 259/ 0 RWL = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.599	-10.080	.45465	.00765	.19141	-.01491	.02325	.02600	.03355	.44248	.10773
.599	-8.140	.44572	.01098	.15825	-.01352	.01982	.02737	.03267	.43345	.10743
.599	-6.110	.44385	.01318	.12283	-.01057	.01521	.02845	.03071	.43139	.10822
.599	-4.090	.43983	.01602	.08722	-.00772	.01099	.03032	.02983	.42708	.10930
.599	-2.040	.43483	.01681	.04915	-.00489	.00569	.03277	.02924	.42178	.11077
.599	.000	.43443	.01835	.01374	-.00254	.00098	.03346	.02757	.42119	.11136
.599	2.000	.43483	.01748	-.02414	.00049	-.00324	.03512	.02816	.42129	.11312
.599	4.060	.43404	.01486	-.06034	.00363	-.00736	.03483	.02884	.42060	.11253
.599	6.090	.43169	.01347	-.09909	.00811	-.01256	.03434	.02943	.41834	.11165
.599	8.120	.43699	.00949	-.13677	.01114	-.01727	.03287	.03120	.42394	.11116
.599	10.060	.43296	.00943	-.17160	.01370	-.02070	.03238	.03316	.42001	.10998
GRADIENT		-.00057	-.00008	-.01811	.00138	-.00224	.00056	-.00015	-.00066	.00043

RUN NO. 260/ 0 RWL = 6.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.900	-10.280	.47800	-.00475	.21290	-.00846	.02011	.07280	.03630	.45612	.16061
.900	-8.300	.47613	-.00410	.17650	-.00905	.01786	.07348	.03414	.45415	.16100
.900	-6.240	.47996	-.00220	.13667	-.00673	.01442	.07584	.03287	.45739	.16394
.900	-4.160	.46917	.00469	.09164	-.00366	.01168	.07456	.03208	.44709	.16061
.900	-2.090	.46593	.00744	.04945	-.00067	.00873	.07427	.03100	.44395	.15972
.900	.000	.46308	.00768	.00971	.00145	.00432	.07466	.03090	.44111	.15953
.900	2.010	.46053	.00813	-.02884	.00379	-.00098	.07466	.03071	.43865	.15904
.900	4.100	.46161	.00563	-.06976	.00708	-.00549	.07525	.03130	.43954	.15982
.900	6.170	.45778	.00566	-.11175	.01046	-.00961	.07505	.03179	.43581	.15884
.900	8.220	.45386	.00260	-.15325	.01258	-.01442	.07447	.03375	.43208	.15747
.900	10.200	.45243	.00187	-.18837	.01288	-.01629	.07476	.03610	.42874	.15708
GRADIENT		-.00099	.00012	-.01945	.00126	-.00214	.00009	-.00009	-.00099	-.00011

MSFC 561 (0A49) ORB 34-0 (BCFM) (NE) (VR)

(R92021) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETRIC DATA

ALPHA = 10.000 ELEVTR = 4.160
AILCON = -.670 BDFLAP = -11.700
SPDRK = 25.590 RUDDER = .000
CONFIG = 1.000

RUN NO. 261/ 0 RV/L = 6.62 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.202	-10.310	.58366	-.05335	.18121	-.00460	.02610	.14314	.05416	.54550	.25214
1.202	-8.330	.58405	-.05267	.14726	-.00399	.02237	.14609	.05219	.54530	.25519
1.202	-6.290	.58474	-.05285	.11087	-.00262	.01805	.14756	.04886	.54569	.25676
1.202	-4.200	.58258	-.05095	.07633	-.00114	.01285	.14854	.04749	.54334	.25734
1.202	-2.100	.58023	-.05051	.04209	.00044	.00687	.14883	.04758	.54108	.25715
1.202	-.030	.57669	-.04969	.00814	.00154	.00157	.14864	.04690	.53765	.25617
1.202	2.040	.57316	-.04839	-.02688	.00292	-.00216	.14923	.04700	.53402	.25607
1.202	4.120	.56824	-.04730	-.06230	.00308	-.00638	.14962	.05092	.53019	.25558
1.202	6.190	.56247	-.04392	-.09948	.00733	-.01177	.15148	.05367	.52322	.25607
1.202	8.290	.55472	-.04211	-.13588	.00968	-.01678	.15295	.05681	.51538	.25997
1.202	10.290	.54618	-.04167	-.17081	.01076	-.02109	.15237	.05779	.50713	.25362
GRADIENT		-.00162	.00045	-.01666	.00072	-.00229	.00012	.00030	-.00160	-.00022

RUN NO. 44/ 0 RV/L = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.120	.24996	-.01909	.16257	.00016	.01570	.09340	.01805	.22546	.13559
2.990	-8.180	.24233	-.01809	.13245	-.00068	.01315	.09330	.01786	.22193	.13490
2.990	-6.140	.24282	-.01411	.09958	.00043	.01011	.09379	.01815	.22232	.13549
2.990	-4.110	.23978	-.01223	.06524	.00171	.00648	.09409	.01795	.21918	.13520
2.990	-2.050	.23625	-.00967	.03561	.00206	.00353	.09370	.01746	.21584	.13412
2.990	-.010	.23321	-.01001	.00667	.00162	.00029	.09340	.01707	.21290	.13333
2.990	2.020	.23291	-.01040	-.02374	.00157	-.00235	.09370	.01727	.21261	.13353
2.990	4.060	.23252	-.01147	-.05308	.00143	-.00549	.09497	.01786	.21202	.13471
2.990	6.110	.23262	-.01360	-.08575	.00273	-.00883	.09438	.01766	.21221	.13422
2.990	8.150	.23174	-.01371	-.12019	.00392	-.01197	.09438	.01766	.21133	.13402
2.990	10.090	.23144	-.01778	-.15070	.00377	-.01462	.09497	.01766	.21094	.13451
GRADIENT		-.00088	.00004	-.01450	-.00005	-.00146	.00009	-.00002	-.00006	-.00008

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TABULATED SOURCE DATA - 0449

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MSFC 501(0449) CFB 34-0 (BCFM) (WE) (VR)

(R92021) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETRIC DATA

ALPHA = 10.000 ELEVTR = 4.160
AILRON = -.670 BDFLAP = -11.700
SPDRK = 25.550 RUDDER = .000
CONFIG = 1.000

RUN NO. 43/ 0 RV/L = 4.88 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CEL	CAP	CAB	CL	CD
4.959	-10.010	.17238	-.01640	.13431	.00306	.01462	.07594	.00471	.15639	.10488
4.959	-8.090	.17199	-.01602	.10841	.00217	.01246	.07398	.00481	.15639	.10292
4.959	-6.070	.16865	-.01762	.08330	.00088	.00971	.07309	.00491	.15325	.10145
4.959	-4.060	.17238	-.01727	.05877	.00048	.00746	.07211	.00471	.15708	.10125
4.959	-2.020	.16893	-.01653	.03306	.00066	.00412	.07152	.00471	.15472	.10007
4.959	.000	.17150	-.01477	.00795	.00114	.00177	.07211	.00471	.15619	.10096
4.959	2.010	.16865	-.01094	-.01707	.00143	-.00108	.07152	.00481	.15354	.09997
4.959	4.030	.16889	-.01542	-.04278	.00053	-.00432	.07103	.00461	.15188	.09919
4.959	6.050	.16728	-.01425	-.06721	.00053	-.00716	.07309	.00461	.15188	.10125
4.959	8.090	.16384	-.01386	-.09301	-.00047	-.00932	.07358	.00461	.14844	.10115
4.959	10.000	.16121	-.01495	-.11881	-.00127	-.01148	.07486	.00461	.14462	.10174
GRADIENT		-.00061	.00046	-.01253	.00004	-.00142	-.00011	-.00000	-.00057	-.00021

MSFC 561(0A49) ORB 34-0 (BCFN) (NE) (WR)

(R92022) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 491.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AIRCON = -.670 BCFAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONF16 = 1.000

RUN NO. 264/ 0 RWL = 4.90 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.95	-10.000	1.06807	-.03511	.19740	-.01398	.01315	.01854	.04278	.98689	.40314
.95	-8.150	1.06107	-.02455	.15815	-.01106	.01001	.01932	.04150	.98199	.40225
.95	-6.110	1.06254	-.01573	.12048	-.00882	.00844	.01982	.04013	.98336	.40304
.95	-4.090	1.06058	-.00966	.08398	-.00598	.00677	.02070	.04023	.98111	.40343
.95	-2.030	1.05616	-.00809	.04189	-.00338	.00579	.02374	.03993	.97591	.40461
.95	.000	1.06460	-.01037	.00137	.00001	.00353	.02266	.03895	.98405	.40667
.95	2.010	1.06126	-.01304	-.04356	.00416	.00235	.02257	.03954	.98101	.40539
.95	4.070	1.05681	-.01617	-.08702	.00831	-.00098	.02090	.03836	.97944	.40274
.95	6.110	1.06234	-.01892	-.12588	.01192	-.00657	.02109	.03826	.98268	.40431
.95	8.120	1.07333	-.02842	-.16306	.01475	-.01236	.01854	.04199	.99376	.40588
.95	10.080	1.06391	-.03553	-.19779	.01721	-.01746	.01874	.04297	.98503	.40245
GRADIENT		.00008	-.00088	-.02099	.00177	-.00093	-.00004	-.00020	.00009	-.00003

RUN NO. 263/ 0 RWL = 6.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.901	-10.430	.97306	.01824	.18021	.04517	.02335	.07339	.05533	.87593	.43002
.901	-8.440	.99406	.01200	.13039	.03825	.01756	.07731	.05563	.89379	.44199
.901	-6.310	.99151	.00568	.10135	.02408	.01315	.07927	.05367	.89075	.44248
.901	-4.210	.98739	.00783	.06632	.01693	.00922	.08457	.05318	.88506	.44582
.901	-2.110	.97944	.00790	.03297	.01106	.00608	.08840	.05435	.87633	.44631
.901	.000	.97434	.00985	.00314	.00385	.00078	.08850	.05426	.87162	.44425
.901	2.060	.97365	.00858	-.02914	-.00230	-.00412	.08771	.05396	.87142	.44317
.901	4.160	.97502	.00802	-.06269	-.00758	-.00863	.08565	.05141	.87328	.44189
.901	6.250	.97836	.00846	-.10007	-.01201	-.01324	.07947	.04945	.87868	.43738
.901	8.350	.97728	.00951	-.13382	-.02337	-.01521	.07466	.04915	.87946	.43257
.901	10.370	.97571	.01152	-.16738	-.03071	-.01874	.07142	.04955	.87927	.42894
GRADIENT		-.00146	.00005	-.01533	-.00298	-.00220	.00007	-.00019	-.00136	-.00053



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TABULATED SOURCE DATA - 0449

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MSFC 581(0449) CRB 34-0 (BCFN) (NE) (VR)

(892022) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT YMRP = 1081.3900 IN.
 LREF = 481.6400 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. YMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIC = 1.000

RUN NO. 282/ 0 RW/L = 6.62 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.196	-10.460	1.14819	-.09115	.16463	.02725	.02276	.12764	.05739	1.01329	.55482
1.196	-8.430	1.15967	-.09687	.13088	.02207	.01864	.13049	.05769	1.02271	.56208
1.196	-6.340	1.16467	-.09920	.09477	.01775	.01334	.13323	.05779	1.02624	.56669
1.196	-4.220	1.16506	-.09591	.06132	.01306	.00932	.14079	.06161	1.02369	.57375
1.196	-2.120	1.15937	-.09578	.03385	.00646	.00461	.14216	.06171	1.01790	.57277
1.196	-.010	1.14956	-.08803	-.00157	.00381	.00206	.14059	.05985	1.00956	.56737
1.196	2.080	1.15045	-.08938	-.03081	-.00084	-.00245	.14059	.06053	1.01044	.56777
1.196	4.180	1.15084	-.09266	-.05877	-.00696	-.00687	.13971	.06210	1.01123	.56688
1.196	6.290	1.15104	-.09459	-.08928	-.01231	-.01011	.13549	.06102	1.01309	.56306
1.196	8.380	1.13328	-.08704	-.12293	-.01690	-.01629	.13314	.05857	.99769	.55384
1.196	10.410	1.12582	-.08017	-.16120	-.01938	-.02080	.13343	.05936	.98611	.54903
GRADIENT		-.00178	.00039	-.01432	-.00225	-.00188	-.00018	-.00001	-.00154	-.00089

RUN NO. 53/ 0 RW/L = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.130	.60024	-.02852	.14216	.01098	.02158	.08241	.01864	.53147	.29100
2.990	-8.190	.59995	-.02833	.11322	.00986	.01727	.08222	.01874	.53117	.29070
2.990	-6.140	.59838	-.02700	.08457	.00776	.01324	.08153	.01854	.52990	.28952
2.990	-4.120	.59798	-.02469	.05524	.00703	.00854	.08192	.01805	.52941	.28982
2.990	-2.050	.59573	-.02260	.02708	.00523	.00402	.08281	.01776	.52695	.28982
2.990	-.010	.59573	-.02240	.00657	.00133	.00059	.08212	.01717	.52725	.28913
2.990	2.030	.59141	-.02286	-.01580	-.00307	-.00245	.08281	.01746	.52303	.28825
2.990	4.070	.59190	-.02353	-.04238	-.00466	-.00706	.08182	.01776	.52391	.28746
2.990	6.110	.59102	-.02490	-.07182	-.00559	-.01128	.08222	.01805	.51920	.28629
2.990	8.180	.58719	-.02602	-.10105	-.00750	-.01580	.08241	.01844	.51685	.28609
2.990	10.110	.58494	-.02664	-.12960	-.00881	-.01943	.08310	.01864	.51685	.28609
GRADIENT		-.00081	.00010	-.01164	-.00155	-.00184	-.00001	-.00004	-.00073	-.00031

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) ORB 34-0 (BCFM) (WE) (WR)

(R92022) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

YMRP = 1081.3900 IN.
 YMRP = .0000 IN.
 ZMRP = .0000 IN.

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AILRON = -.570 BCLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 54/ 0 RWL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	COB	CAP	CAB	CL	CD
4.959	-10.010	.50066	-.01976	.11518	.01115	.01766	.07172	.00500	.44356	.24302
4.959	-6.090	.49987	-.01736	.09330	.00989	.01481	.07103	.00500	.44297	.24214
4.959	-6.070	.50184	-.01887	.07074	.00715	.01148	.06956	.00520	.44532	.24145
4.959	-4.070	.50184	-.01839	.04955	.00472	.00444	.06887	.00500	.44562	.24086
4.959	-2.020	.50017	-.01726	.02845	.00278	.00432	.06819	.00500	.44434	.23959
4.959	.000	.49811	-.01613	.00726	.00104	.00098	.06848	.00500	.44228	.23910
4.959	2.010	.49997	-.01600	-.01187	-.00226	-.00226	.06858	.00481	.44405	.23988
4.959	4.030	.49497	-.01521	-.03434	-.00391	-.00618	.06838	.00481	.43934	.23792
4.959	6.030	.49399	-.01697	-.05622	-.00664	-.00971	.06829	.00471	.43846	.23753
4.959	8.100	.49075	-.01663	-.07996	-.00821	-.01324	.06995	.00491	.43492	.23792
4.959	10.000	.48545	-.01459	-.10253	-.00977	-.01580	.07172	.00510	.42923	.23772
	GRADIENT	-.00069	.00036	-.01029	-.00110	-.00177	-.00003	-.00003	-.00064	-.00028

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) OFB 34-0 (BCFM) (MC) (VR)

(R92025) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 30.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONF16 = 1.000

RUN NO. 63/ 0 RNVL = 4.04 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.130	1.01554	-.04994	.12411	.01907	.02590	.07770	.01894	.82678	.59485
2.990	-8.190	1.01623	-.04993	.09841	.01729	.02021	.07535	.01894	.82855	.59318
2.990	-6.150	1.02055	-.04967	.07299	.01463	.01452	.07447	.01874	.83257	.59475
2.990	-4.120	1.02065	-.04850	.04670	.01127	.00912	.07299	.01854	.83355	.59357
2.990	-2.090	1.02104	-.04724	.02472	.00737	.00422	.07250	.01815	.83404	.59337
2.990	-.010	1.01888	-.04621	.00775	.00595	.00069	.07280	.01776	.83208	.59249
2.990	2.030	1.01653	-.04644	-.00932	-.00626	-.00275	.07250	.01795	.83031	.59092
2.990	4.070	1.01476	-.04531	-.03012	-.01016	-.00765	.07290	.01825	.82845	.59043
2.990	6.120	1.01064	-.04460	-.05553	-.01311	-.01324	.07427	.01844	.82433	.58935
2.990	8.180	1.00593	-.04448	-.08055	-.01656	-.01903	.07437	.01864	.82030	.58690
2.990	10.110	.99994	-.04313	-.10704	-.01805	-.02443	.07535	.01854	.81471	.58454
GRADIENT		-.00080	.00035	-.00920	-.00277	-.00199	-.00001	-.00004	-.00068	-.00043

RUN NO. 62/ 0 RNVL = 4.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	-10.010	.91057	-.03353	.10370	.01635	.02198	.07152	.00441	.74495	.52842
4.999	-8.090	.91508	-.03259	.08447	.01325	.01795	.07064	.00461	.74927	.52999
4.999	-6.070	.91930	-.03213	.06324	.00927	.01403	.06878	.00451	.75378	.53058
4.999	-4.050	.91812	-.03254	.04543	.00646	.00903	.06760	.00451	.75339	.52901
4.999	-2.020	.91989	-.03174	.02561	.00384	.00432	.06613	.00471	.75565	.52862
4.999	.000	.91792	-.03070	.01040	.00118	.00059	.06642	.00461	.75388	.52793
4.999	2.010	.91684	-.03208	-.00863	-.00292	-.00392	.06681	.00441	.75271	.52764
4.999	4.030	.91282	-.03108	-.02786	-.00651	-.00824	.06662	.00461	.74947	.52538
4.999	6.050	.90929	-.02949	-.04631	-.00892	-.01256	.06789	.00451	.74574	.52470
4.999	8.090	.90321	-.02929	-.06809	-.01106	-.01717	.06878	.00451	.74015	.52224
4.999	10.000	.89712	-.02881	-.08732	-.01426	-.02100	.06936	.00471	.73456	.51959
GRADIENT		-.00067	.00013	-.00896	-.00162	-.00212	-.00006	-.00000	-.00053	-.00041

N6FC 581(0449) CRB 34-0 (BCPN) (WE) (VR)

(R92024) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.9900 IN.
LREF = 481.6400 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

ALPHA = 40.000 ELEVTR = 4.160
AILRON = -.670 BDFLAP = -11.700
SPDRK = 25.550 RUDDER = .000
CONF16 = 1.000

PARAMETRIC DATA

RUN NO. 68/ 0 RM/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.140	1.4546	-.08238	.11342	.02006	.02845	.07103	.01884	1.03625	1.02359
2.990	-8.180	1.46106	-.08383	.09321	.01558	.02394	.06927	.01884	1.04194	1.02810
2.990	-6.180	1.46754	-.08624	.07211	.01207	.01894	.06958	.01903	1.04714	1.03046
2.990	-4.110	1.47480	-.08750	.05210	.00710	.01403	.06721	.01903	1.05332	1.03438
2.990	-2.050	1.47982	-.08643	.03169	.00232	.00824	.06554	.01903	1.05371	1.03252
2.990	-.010	1.47196	-.08617	.01118	-.00079	.00118	.06334	.01903	1.05253	1.03105
2.990	2.020	1.47225	-.08366	-.01207	-.00324	-.00618	.06544	.01894	1.05253	1.03144
2.990	4.070	1.46725	-.08135	-.03198	-.00772	-.01236	.06185	.01884	1.04929	1.02751
2.990	6.090	1.45704	-.08129	-.05072	-.01248	-.01766	.06173	.01854	1.04135	1.02123
2.990	8.150	1.45008	-.07850	-.07231	-.01629	-.02286	.06730	.01864	1.03517	1.01770
2.990	10.090	1.43771	-.07502	-.09301	-.02039	-.02737	.06819	.01844	1.02555	1.00985
	GRADIENT	-.00062	.00049	-.01037	-.00172	-.00329	-.00024	-.00002	-.00045	-.00073

RUN NO. 69/ 0 RM/L = 5.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.010	1.34320	-.07127	.09468	.01697	.02590	.06897	.00461	.96747	.93715
4.959	-8.090	1.35540	-.07072	.07751	.01349	.02149	.06838	.00500	.97532	.94353
4.959	-6.040	1.36501	-.07183	.05906	.01000	.01658	.06652	.00510	.98385	.94863
4.959	-4.060	1.36531	-.07211	.04189	.00682	.01109	.06475	.00481	.98513	.94746
4.959	-2.040	1.36757	-.07179	.02551	.00364	.00589	.06426	.00481	.98719	.94863
4.959	.000	1.36678	-.07170	.01030	-.00090	.00078	.06328	.00481	.98719	.94736
4.959	2.010	1.36560	-.06892	-.00481	-.00495	-.00432	.06377	.00520	.98601	.94696
4.959	4.030	1.35962	-.06872	-.02198	-.00942	-.00932	.06416	.00520	.98130	.94324
4.959	6.030	1.35320	-.06637	-.03973	-.01171	-.01462	.06485	.00481	.97758	.94088
4.959	8.070	1.34019	-.06750	-.05690	-.01577	-.01982	.06515	.00491	.96829	.93097
4.959	10.000	1.32950	-.06485	-.07476	-.01925	-.02443	.06583	.00481	.95776	.92430
	GRADIENT	-.00066	.00048	-.00781	-.00193	-.00254	-.00008	-.00006	-.00044	-.00030

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TABULATED SOURCE DATA - 0449

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H5FC 501(0449) CRB 34-0 (BCPN) (UE)

(R92125) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 S8. FT XMRP = 1201.3900 IN.
 LREF = 401.6400 IN. YMRP = .0000 IN.
 BREF = 936.7500 IN. ZMRP = .0000 IN.
 SCALE = .0040

ALPHA = .000 ELEVTR = 4.160
 AILRON = -.670 BCFAP = -11.700
 CONFIC = 2.000

PARAMETRIC DATA

RUN NO. 277/ 0 RNVL = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CLL	CAP	CAB	CL	CD
.994	-10.070	-.03620	.00929	.08810	.02525	-.01344	.04003	.02796	-.03610	.04013
.994	-8.140	-.04425	.01351	.07280	.02061	-.01109	.04170	.02659	-.04415	.04180
.994	-6.100	-.05298	.01734	.05465	.01605	-.00834	.04238	.02345	-.03278	.04258
.994	-4.070	-.05710	.02066	.03807	.01110	-.00549	.04287	.02207	-.05700	.04307
.994	-2.040	-.06465	.02266	.02001	.00644	-.00285	.04327	.02188	-.06446	.04346
.994	.000	-.06866	.02316	.00304	.00120	.00000	.04238	.02158	-.06846	.04258
.994	2.020	-.07152	.02391	-.01580	-.00327	.00265	.04258	.02296	-.07133	.04287
.994	4.080	-.07250	.02380	-.03238	-.00802	.00530	.04229	.02374	-.07241	.04248
.994	6.090	-.06895	.02190	-.05053	-.01287	.00805	.04209	.02551	-.06976	.04229
.994	8.100	-.07192	.01829	-.06711	-.01772	.01089	.04268	.02600	-.07182	.04297
.994	10.080	-.06817	.01524	-.08379	-.02296	.01374	.04238	.02835	-.06907	.04258
GRADIENT		-.00166	.00037	-.00870	-.00236	.00133	-.00009	.00022	-.00186	-.00009

RUN NO. 278/ 0 RNVL = 6.24 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CLL	CAP	CAB	CL	CD
.899	-10.230	-.05710	.01746	.10586	.02589	-.01999	.05033	.02875	-.05690	.05053
.899	-8.270	-.06191	.02155	.08526	.02130	-.01266	.05033	.02620	-.06171	.05063
.899	-6.200	-.06681	.02476	.06534	.01604	-.00971	.05190	.02296	-.06662	.05210
.899	-4.140	-.06398	.03502	.04444	.01135	-.00540	.04925	.02178	-.06379	.04964
.899	-2.080	-.06379	.03899	.02482	.00668	-.00235	.04955	.02129	-.06359	.04984
.899	.010	-.06653	.03982	.00510	.00161	.00129	.04837	.02129	-.06634	.04866
.899	2.020	-.05016	.03918	-.01540	-.00307	.00294	.04827	.02158	-.06997	.04866
.899	4.100	-.05419	.03663	-.03512	-.00794	.00598	.04955	.02207	-.06999	.04994
.899	6.170	-.05007	.03689	-.05475	-.01301	.00844	.04876	.02345	-.06988	.04925
.899	8.210	-.01445	.03465	-.07388	-.01836	.01168	.04896	.02463	-.05125	.04935
.899	10.190	-.03161	.03181	-.09330	-.02294	.01580	.04984	.02649	-.03351	.05053
GRADIENT		-.00130	.00036	-.00969	-.00235	.00136	-.00003	.00004	-.00130	-.00003

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TABULATED SOURCE DATA - 0A49

(R92025) (22 MAY 74)

MSFC 581(0A49) CEB 34-0 (8CFM) (WE)

REFERENCE DATA

SREF = 2741.6000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = .000
 AILRON = -.670
 CONFIG = 2.000

PARAMETRIC DATA

RUN NO. 279/ 0 RV/L = 6.66 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.196	-10.340	-.03767	.01033	.11175	.02858	-.01501	.11714	.04709	-.03728	.11724
1.196	-8.350	-.03601	.01084	.09134	.02233	-.01256	.11714	.04503	-.03561	.11724
1.196	-6.270	-.03866	.01234	.06885	.01637	-.00981	.11813	.04484	-.03826	.11832
1.196	-4.180	-.03679	.01237	.04915	.01061	-.00726	.11911	.04386	-.03630	.11920
1.196	-2.100	-.03689	.01324	.02835	.00543	-.00461	.11950	.04327	-.03650	.11970
1.196	-.010	-.04081	.01376	.00697	.00345	-.00216	.11911	.04278	-.04032	.11920
1.196	2.060	-.04356	.01546	-.01442	-.00453	.00020	.11891	.04248	-.04307	.11911
1.196	4.140	-.05082	.01776	-.03522	-.00961	.00255	.11930	.04386	-.05043	.11950
1.196	6.220	-.05602	.01845	-.05612	-.01508	.00520	.11881	.04366	-.05553	.11901
1.196	8.290	-.06220	.01922	-.07741	-.02045	.00795	.11911	.04484	-.06171	.11940
1.196	10.300	-.06760	.01875	-.09899	-.02642	.01050	.11999	.04650	-.06711	.12028
	GRADIENT	-.00166	.00062	-.01017	-.00242	.00117	-.00001	-.00004	-.00167	-.00000

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TABULATED SOURCE DATA - 0449

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MSFC 581(0449) CRB 34-0 (BCFM) (NE)

(R92026) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7050 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 10.000 ELEVTR = 4.160
 AIRRON = -.670 BDFLAP = -11.700
 CONFIG = 2.000

RUN NO. 276/ 0 RN/L = 4.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.995	-10.070	.47898	.00194	.09330	.02421	.00324	.01756	.03149	.46789	.10400
.995	-8.140	.46848	.00642	.07888	.01929	.00324	.01668	.03002	.45769	.10115
.995	-6.110	.46151	.00785	.06289	.01366	.00255	.01570	.02629	.45111	.09890
.995	-4.090	.46210	.00883	.04562	.00901	.00186	.01609	.02433	.45160	.09939
.995	-2.040	.45690	.00981	.02806	.00445	.00098	.01678	.02384	.44631	.09909
.995	.000	.45484	.00862	.00893	-.00022	.00000	.01609	.02404	.44444	.09801
.995	2.000	.45612	.00693	-.01148	-.00343	-.00078	.01746	.02472	.44542	.09968
.995	4.050	.45406	.00793	-.03071	-.00820	-.00128	.01815	.02561	.44326	.09988
.995	6.080	.45641	.00603	-.04768	-.01236	-.00177	.01943	.02688	.44532	.10154
.995	8.100	.45219	.00325	-.06465	-.01750	-.00226	.02090	.02727	.44591	.10213
.995	10.050	.45200	.00248	-.08035	-.02234	-.00226	.02070	.02864	.44081	.10204
	GRADIENT	-.00183	-.00013	-.00946	-.00208	-.00040	.00024	.00017	-.00087	.00008

RUN NO. 275/ 0 RN/L = 6.23 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.903	-10.280	.49879	-.01167	.11616	.03205	.00206	.05896	.03159	.47907	.15099
.903	-8.310	.48996	-.00717	.09458	.02540	.00265	.05779	.02865	.47054	.14815
.903	-6.240	.49644	-.01132	.07486	.01935	.00314	.06053	.02855	.47643	.15217
.903	-4.190	.49203	-.01149	.05170	.01416	.00186	.06112	.02777	.47201	.15178
.903	-2.090	.48996	-.00881	.02934	.00819	.00304	.05916	.02747	.47034	.14952
.903	-.020	.48761	-.00904	.00814	.00262	.00324	.05946	.02669	.46799	.14942
.903	2.040	.48477	-.00735	-.01462	-.00247	.00294	.05985	.02669	.46504	.14913
.903	4.100	.48251	-.00845	-.03561	-.00795	.00275	.05946	.02708	.46298	.14834
.903	6.170	.47751	-.00854	-.05700	-.01352	.00294	.05985	.02777	.45759	.14756
.903	8.220	.47515	-.01108	-.07810	-.01918	.00226	.06034	.02904	.45553	.14766
.903	10.220	.47172	-.01307	-.09880	-.02573	.00265	.06112	.02934	.45219	.14775
	GRADIENT	-.00117	.00037	-.01055	-.00265	.00008	-.00013	-.00010	-.00113	-.00035

MSFC 581(0449) GRB 34-0 (BCFN) (ME)

(R92026) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SA. FT YMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 10.000 ELEVTR = 4.160
 AIRCON = -.670 BDFLAP = -11.700
 CONFIG = 2.000

RUN NO. 274/ 0 RIVL = 6.66 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.200	-10.340	.61211	-.08668	.10017	.03310	.00245	.11028	.04709	.57974	.22536
1.200	-8.350	.61231	-.08207	.08114	.02608	.00324	.11057	.04641	.57993	.22556
1.200	-6.270	.61260	-.08419	.06259	.01945	.00392	.11018	.04503	.58023	.22526
1.200	-4.200	.61309	-.08466	.04435	.01331	.00402	.10998	.04346	.58072	.22516
1.200	-2.100	.60976	-.08472	.02580	.00747	.00245	.10959	.04287	.57758	.22408
1.200	-.020	.60652	-.08419	.00687	.00153	.00167	.10939	.04297	.57444	.22330
1.200	2.030	.60161	-.08262	-.01246	-.00354	.00206	.10979	.04268	.56963	.22261
1.200	4.110	.59514	-.08799	-.03247	-.00880	.00216	.11096	.04376	.56306	.22242
1.200	6.190	.58435	-.08574	-.05092	-.01474	.00235	.11067	.04317	.55256	.21996
1.200	8.270	.57503	-.08144	-.07044	-.02079	.00265	.11155	.04444	.54334	.21889
1.200	10.280	.56826	-.07691	-.08928	-.02732	.00294	.11224	.04592	.53657	.21830
	GRADIENT	-.00212	.00074	-.00925	-.00266	-.00020	.00010	.00002	-.00208	-.00034

RUN NO. 45/ 0 RIVL = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.140	.25882	-.03987	.11518	.02381	.00059	.07996	.01854	.24047	.12470
2.990	-8.190	.25577	-.03818	.09183	.01939	.00149	.07918	.01854	.23762	.12333
2.990	-6.140	.25587	-.03625	.06995	.01519	.00059	.07908	.01835	.23772	.12333
2.990	-4.120	.25342	-.03541	.04768	.01079	.00039	.07770	.01805	.23566	.12146
2.990	-2.090	.25303	-.03542	.02659	.00581	.00039	.07741	.01815	.23527	.12107
2.990	-.010	.24999	-.03460	.00677	.00163	.00029	.07682	.01756	.23233	.11999
2.990	2.030	.25128	-.03459	-.01580	-.00258	.00049	.07751	.01776	.23252	.12068
2.990	4.070	.24851	-.03462	-.03650	-.00717	.00049	.07761	.01766	.23085	.12048
2.990	6.100	.24763	-.03370	-.05789	-.01166	.00039	.07859	.01766	.22978	.12126
2.990	8.160	.24537	-.03632	-.08016	-.01616	.00078	.07937	.01795	.22742	.12166
2.990	10.110	.24449	-.03836	-.10262	-.02027	.00098	.08035	.01825	.22634	.12244
	GRADIENT	-.00061	.00012	-.01030	-.00217	.00001	-.00000	-.00006	-.00060	-.00012

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) CRB 34-0 (BCFM) (ME)

(R92026) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
LREF = 481.6480 IN.
BREF = 936.7500 IN.
SCALE = .0040

XMRP = 1061.3900 IN.
YMRP = .0000 IN.
ZMRP = .0000 IN.

ALPHA = 10.000 ELEVTR = 4.160
AIIRON = -.670 BDRAP = -11.700
CONFIC = 2.000

PARAMETRIC DATA

RUN NO. 46/ 0 RVL = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

WACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.020	.17837	-.02935	.10047	.01947	.00432	.06750	.00471	.16384	.09772
4.959	-8.090	.17797	-.02830	.07976	.01645	.00353	.06652	.00481	.16355	.09664
4.959	-6.070	.17778	-.02569	.05906	.01334	.00294	.06554	.00491	.16355	.09566
4.959	-4.070	.17601	-.02688	.04160	.00898	.00235	.06446	.00471	.16198	.09428
4.959	-2.030	.17660	-.02571	.02286	.00607	.00177	.06426	.00481	.16257	.09419
4.959	-.010	.17562	-.02573	.00677	.00251	.00128	.06465	.00500	.16159	.09438
4.959	2.010	.17738	-.02512	-.01324	-.00138	.00039	.06436	.00481	.16335	.09448
4.959	4.030	.17228	-.02588	-.03130	-.00526	.00000	.06397	.00481	.15845	.09311
4.959	6.030	.16895	-.02525	-.05004	-.00914	-.00078	.06456	.00461	.15501	.09311
4.959	8.100	.16610	-.02501	-.07084	-.01304	-.00128	.06544	.00481	.15207	.09350
4.959	10.000	.16973	-.02485	-.08958	-.01594	-.00147	.06662	.00481	.15551	.09536
	GRADIENT	-.00033	.00014	-.05399	-.00178	-.00030	-.00004	.00001	-.00031	-.00010

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) ORB 34-0 (BCPM) (WE)

(R92027) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AIRRON = -.670 BDRAP = -11.700
 CONFIC = 2.000

RUN NO. 271/ 0 RWL = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.597	-10.090	1.08638	-.04059	.10086	.02585	-.00608	.01992	.04788	1.00544	.41207
.597	-8.150	1.06372	-.02867	.08349	.02119	-.00942	.01766	.04503	.98513	.40157
.597	-6.110	1.06352	-.02180	.06652	.01458	-.00598	.01550	.04189	.98572	.39961
.597	-4.100	1.06558	-.01635	.05013	.00787	-.00196	.01109	.03777	.98925	.39637
.597	-2.040	1.06303	-.01591	.02963	.00319	.00069	.01128	.03748	.98680	.39548
.597	.000	1.06833	-.01805	.03608	-.00054	.00314	.01020	.03601	.99210	.39647
.597	2.010	1.07039	-.02160	-.02149	-.00341	.00657	.00991	.03581	.99406	.39696
.597	4.070	1.07078	-.02333	-.06433	-.00744	.00746	.01011	.03581	.99435	.39715
.597	6.110	1.07039	-.02643	-.06740	-.01184	.00559	.01148	.03709	.99357	.39843
.597	8.120	1.07431	-.03314	-.08457	-.01718	.00706	.01570	.04130	.99573	.40363
.597	10.070	1.07029	-.04055	-.09939	-.02260	.00432	.01786	.04415	.99121	.40402
.597	GRADIENT	.00087	-.00096	-.01187	-.00183	.00121	-.00016	-.00027	.00086	.00015

RUN NO. 272/ 0 RWL = 6.25 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.898	-10.450	.98209	.02997	.14255	.05621	.01717	.07182	.05445	.88486	.43198
.898	-8.460	.99533	.00438	.12244	.04555	.01266	.07290	.05396	.89673	.43816
.898	-6.350	1.00044	-.00395	.09232	.03215	.00785	.07378	.05347	.90115	.44071
.898	-4.240	.98229	-.00398	.06318	.02142	.00540	.07535	.05327	.89310	.43895
.898	-2.150	.99131	-.00506	.03640	.01227	.00432	.07712	.05318	.89163	.44012
.898	-.050	.99161	-.00535	.00981	.00263	.00118	.07731	.05386	.89173	.44042
.898	2.050	.99210	-.00582	-.01776	-.00731	-.00265	.07662	.05308	.89251	.43993
.898	4.170	.99082	-.00410	-.04552	-.01666	-.00481	.07535	.05288	.89183	.43826
.898	6.270	.99494	-.00201	-.07555	-.02544	-.00569	.07260	.05249	.89663	.43728
.898	8.390	.99072	.00257	-.10851	-.03719	-.00648	.06936	.05053	.89389	.43277
.898	10.390	.97659	.00834	-.13323	-.04829	-.00961	.06779	.05043	.88152	.42580
.898	GRADIENT	-.00010	-.00005	-.01293	-.00456	-.00130	-.00002	-.00004	-.00008	-.00007

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

MSFC 581(0449) ORB 34-0 (BCFN)(WE)

(R92027) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
LREF = 481.6480 IN.
BREF = 936.7000 IN.
SCALE = .0040

ALPHA = 20.000
AILRON = -6.70
CONFIC = 2.000
ELEVTR = 4.160
BDPLAP = -11.700

PARAMETRIC DATA

RUN NO. 273/ 0 RVL = 6.66 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CEL	CAP	CAB	CL	CD
1.198	-10.900	1.17654	-12629	.14991	.03881	.01236	.11361	.06436	1.04478	.55266
1.198	-8.480	1.19087	-13409	.12460	.02997	.01030	.11420	.06524	1.05773	.55884
1.198	-6.360	1.19440	-13616	.09664	.02169	.00895	.11479	.06456	1.06077	.56080
1.198	-4.260	1.19087	-13583	.06544	.01457	.00608	.11734	.06524	1.05665	.56178
1.198	-2.130	1.18577	-13359	.03689	.00688	.00304	.11665	.06338	1.05214	.55903
1.198	-.010	1.17959	-13108	.00389	.00074	.00186	.11518	.06289	1.04714	.55521
1.198	2.070	1.18194	-13143	-.02345	-.00618	-.00010	.11616	.06279	1.04890	.55707
1.198	4.200	1.18302	-13150	-.05180	-.01308	-.00216	.11695	.06328	1.04959	.55815
1.198	6.320	1.17929	-13050	-.08241	-.02010	-.00363	.11626	.06465	1.04645	.55590
1.198	8.410	1.16271	-12312	-.11067	-.02759	-.00667	.11361	.06220	1.03232	.54687
1.198	10.450	1.14957	-11657	-.13736	-.03586	-.00814	.11391	.06377	1.01976	.54167
	GRADIENT	-.00093	.00051	-.01396	-.00324	-.00093	-.00006	-.00022	-.00082	-.00044

RUN NO. 48/ 0 RVL = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CEL	CAP	CAB	CL	CD
2.990	-10.140	.60623	-.03984	.12077	.02228	.01364	.07368	.01854	.54010	.28501
2.990	-8.190	.60613	-.04061	.09860	.01739	.01118	.07299	.01874	.54030	.28432
2.990	-6.140	.60789	-.04049	.07535	.01318	.00863	.07231	.01874	.54216	.28432
2.990	-4.120	.60740	-.04011	.05200	.00877	.00589	.07133	.01805	.54206	.28325
2.990	-2.050	.60750	-.03972	.02914	.00475	.00324	.07074	.01786	.54226	.28266
2.990	-.010	.60613	-.03955	.00706	.00035	.00039	.07064	.01776	.54108	.28217
2.990	2.030	.60368	-.03978	-.01727	-.00348	-.00216	.07093	.01756	.53875	.28148
2.990	4.080	.60220	-.03865	-.04023	-.00739	-.00481	.07074	.01766	.53745	.28079
2.990	6.120	.59926	-.03802	-.06309	-.01190	-.00736	.07211	.01825	.53421	.28099
2.990	8.170	.59357	-.03724	-.08555	-.01601	-.01001	.07319	.01844	.52852	.27991
2.990	10.120	.59063	-.03815	-.10851	-.02051	-.01217	.07348	.01844	.52568	.27913
	GRADIENT	.00069	.00014	-.01127	-.00198	-.00131	-.00005	-.00005	-.00062	-.00030

MSFC 581(0449) ORB 34-0 (BCFM) (NE)

(R92027) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AIRCON = -.670 BCFAP = -11.700
 CONFIC = 2.000

RUN NO. 47/ 0 RVL = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLN	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-10.020	.49948	-.02771	.09870	.01984	.01168	.06750	.00500	.44395	.23870
4.99	-8.100	.50184	-.02642	.08133	.01646	.01020	.06730	.00510	.44621	.23929
4.99	-6.070	.50272	-.02611	.06191	.01209	.00785	.06603	.00500	.44748	.23841
4.99	-4.070	.49811	-.02435	.04395	.00801	.00569	.06446	.00500	.44375	.23527
4.99	-2.020	.49673	-.02399	.02463	.00452	.00285	.06397	.00500	.44258	.23439
4.99	.000	.49791	-.02310	.00795	.00095	.00059	.06367	.00491	.44375	.23458
4.99	2.010	.49673	-.02302	-.01128	-.00274	-.00186	.06407	.00500	.44258	.23448
4.99	4.030	.49487	-.02247	-.02855	-.00632	-.00441	.06436	.00481	.44071	.23409
4.99	6.050	.49046	-.02293	-.04788	-.01011	-.00667	.06426	.00491	.43659	.23242
4.99	8.100	.48761	-.02278	-.06652	-.01418	-.00873	.06505	.00481	.43375	.23213
4.99	10.020	.48447	-.02418	-.08516	-.01797	-.01050	.06632	.00500	.43031	.23223
GRADIENT		-.00032	.00023	-.00894	-.00178	-.00123	-.00001	-.00002	-.00030	-.00011

REFERENCE DATA

SREF =	2741.0000 SQ. FT	YWRP =	1081.3900 IN.
LREF =	481.6480 IN.	YWRP =	.0000 IN.
BREF =	936.7550 IN.	ZWRP =	.0000 IN.
SCALE =	.0045		

PARAMETRIC DATA

ALPHA =	30.000	ELEVTR =	4.160
AIRLON =	- .670	BCFLAP =	-11.700
CONFIG =	2.050		

RUN NO. 64 0 R/V/L = 4.04 GRADIENT INTERVAL = -5.00/ 5.00

MACRO	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.140	1.01996	-.05674	.11410	.02907	.02196	.07280	.01903	.83316	.59288
2.990	-8.190	1.02320	-.05668	.09321	.02049	.01776	.07074	.01903	.83688	.59288
2.990	-6.190	1.02585	-.05645	.07152	.01560	.01383	.06936	.01903	.83973	.59337
2.990	-4.100	1.02575	-.05490	.04945	.01071	.00971	.06838	.01894	.84012	.59249
2.990	-2.060	1.02555	-.05355	.02855	.00592	.00530	.06760	.01835	.84042	.59151
2.990	-.010	1.02320	-.05320	.00863	.00105	.00088	.06770	.01805	.83836	.59033
2.990	2.030	1.02379	-.05406	.01266	-.00452	-.00383	.06790	.01815	.83904	.59043
2.990	4.090	1.01917	-.05240	.03228	-.00909	-.00834	.06799	.01854	.83492	.58847
2.990	6.120	1.01584	-.05245	-.05475	-.01428	-.01266	.06829	.01864	.83188	.58690
2.990	8.190	1.01015	-.05196	-.07643	-.01917	-.01707	.06948	.01874	.82698	.58405
2.990	10.110	1.00436	-.05041	-.09684	-.02346	-.02060	.06936	.01854	.82168	.58180
GRADIENT		-.00073	.02022	-.01070	-.00244	-.00221	-.00006	-.00005	-.00038	-.00045

RUN NO.	65/ 0	RWL = 4.84	GRADIENT INTERVAL = -5.00/ 5.00
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MACH	BETA	CN	CLM	CY	CYN	COL	CAP	CAB	CL	CD
-10.010	.91253	-.04220	.09281	.02146	.01932	.06829	.00471	.74829	.52656	
-8.499	.91596	-.04079	.07682	.01711	.01619	.06730	.00432	.75182	.52754	
-6.050	.91773	-.03980	.05955	.01334	.01285	.06662	.00471	.75359	.52784	
-4.070	.92146	-.03761	.04297	.00899	.00903	.06603	.00471	.75712	.52941	
-2.030	.91998	-.03686	.02629	.00522	.00520	.06524	.00451	.75293	.52993	
-0.101	.91233	-.03553	.01109	.00078	.00128	.06416	.00431	.75624	.52303	
2.010	.91763	-.03593	.00549	-.00348	-.00235	.06348	.00500	.75023	.52519	
4.030	.91498	-.03510	.00198	-.00764	-.00398	.06456	.00520	.75231	.52479	
6.050	.90880	-.03472	-.02276	-.01161	-.00932	.06475	.00451	.74692	.52165	
8.100	.90213	-.03395	-.03730	-.01646	-.01334	.06446	.00441	.74142	.51793	
10.070	.89703	-.03365	-.07398	-.02003	-.01619	.06573	.00451	.73642	.51636	
GRADIENT	-.00076	.00030	-.00807	-.00207	-.00186	-.00023	.00007	-.00059	-.00059	

MSFC 581(0449) ORB 34-0 (BCFM) (WE)

(R92029) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 40.000 ELEVTR = 4.160
 AILRON = -.670 BCFAP = -11.700
 CONFIG = 2.000

RUN NO. 67/ 0 RWL = 4.05 GRADIENT INTERVAL = -5.00/ 5.00

MACI	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.120	1.45636	-.08691	.10370	.02479	.02482	.06946	.01854	1.03850	1.02339
2.990	-8.160	1.46470	-.08774	.08555	.01993	.02080	.06848	.01864	1.04517	1.02840
2.990	-6.140	1.47146	-.08966	.06662	.01517	.01648	.06838	.01874	1.05018	1.03291
2.990	-4.090	1.47804	-.09104	.04690	.00980	.01168	.06672	.01864	1.05606	1.03615
2.990	-2.030	1.47922	-.08886	.02884	.00485	.00648	.06613	.01874	1.05734	1.03654
2.990	-.010	1.47725	-.08831	.01118	-.00069	.00388	.06534	.01874	1.05636	1.03468
2.990	2.030	1.47529	-.08602	-.00716	-.00614	-.00461	.06475	.01854	1.05538	1.03291
2.990	4.070	1.47107	-.08512	-.02321	-.01129	-.01001	.06475	.01935	1.05234	1.03006
2.990	6.090	1.46322	-.08438	-.04405	-.01635	-.01521	.06475	.01825	1.04655	1.02457
2.990	8.160	1.45430	-.08133	-.06407	-.02113	-.02001	.06603	.01844	1.03919	1.01947
2.990	10.100	1.44360	-.07889	-.08182	-.02579	-.02404	.06662	.01925	1.03105	1.01260
GRADIENT		-.00088	.00062	-.00884	-.00261	-.00267	-.00026	-.00004	-.00046	-.00077

RUN NO. 66/ 0 RWL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACI	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.010	1.34127	-.07008	.08918	.02055	.02433	.06770	.00402	.96541	.93362
4.959	-8.090	1.35157	-.07030	.07260	.01718	.02001	.06711	.00422	.97345	.94050
4.959	-6.070	1.35766	-.07049	.05602	.01253	.01540	.06564	.00422	.97895	.94304
4.959	-4.060	1.36433	-.07000	.04072	.00789	.01079	.06465	.00432	.98454	.94677
4.959	-2.020	1.36286	-.06934	.02620	.00385	.00598	.06416	.00432	.98376	.94539
4.959	.000	1.36443	-.06797	.01226	-.00019	.00147	.06416	.00432	.98484	.94647
4.959	2.010	1.36160	-.06851	-.00226	-.00322	-.00334	.06318	.00432	.98268	.94314
4.959	4.030	1.35616	-.06742	-.01815	-.00947	-.00765	.06338	.00422	.97924	.94039
4.959	6.090	1.34716	-.06718	-.03267	-.01410	-.01246	.06289	.00422	.97287	.93401
4.959	8.070	1.33862	-.06470	-.05121	-.01788	-.01746	.06328	.00422	.96619	.92852
4.959	10.000	1.32479	-.06270	-.06711	-.02223	-.02149	.06328	.00422	.95599	.91930
GRADIENT		-.00092	.00031	-.00723	-.00217	-.00229	-.00017	-.00001	-.00058	-.00074

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) CRB 34-0 (BCFM) (WE) (VR)

(R92030) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 20.000
 AILRON = -.630
 SPDRK = 22.550
 RUDDER = -.000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 57/ 0 RWL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CEL	CAP	CAB	CL	CD
4.99	-10.010	.47878	-.00348	.11490	.01173	.01560	.07093	.00481	.42335	.23468
4.99	-8.070	.47966	-.00395	.09262	.05998	.01334	.06976	.00491	.42462	.23390
4.99	-6.070	.47809	-.00330	.07074	.00774	.01020	.06829	.00491	.42364	.23193
4.99	-4.070	.47823	.00564	.04886	.00990	.00706	.06691	.00491	.42237	.22997
4.99	-2.030	.47770	-.00340	.02708	.00375	.00353	.06730	.00471	.42354	.23085
4.99	.000	.47594	.00064	.00726	.00134	.00020	.06799	.00481	.42168	.23085
4.99	2.010	.47417	.00109	-.01128	-.00176	-.00255	.06730	.00481	.42031	.22958
4.99	4.030	.47427	-.00055	-.03444	-.00362	-.00618	.06711	.00481	.42050	.22948
4.99	6.050	.47280	-.00212	-.05622	-.00586	-.00932	.06740	.00491	.41893	.22919
4.99	8.100	.46895	-.00285	-.08075	-.00782	-.01266	.06917	.00510	.41570	.22987
4.99	10.000	.46338	-.00150	-.10321	-.00968	-.01560	.07384	.00510	.40893	.22899
4.99	GRADIENT	-.00037	-.00004	-.01013	-.00121	-.00161	.00002	-.00000	-.00034	-.00011

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 20.000
 AILRON = -.400
 SPDRK = 22.550
 RUDDER = -.000
 CONFIG = 1.000

PARAMETRIC DATA

MSFC 581(0A49) CRB 34-0 (BCFM) (WE) (VR)

(R92031) (22 MAY 74)

RUN NO. 58/ 0 RWL = 4.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CEL	CAP	CAB	CL	CD
4.99	-10.010	.45975	.01295	.11490	.01222	.01491	.07192	.00471	.40320	.22879
4.99	-8.090	.46289	.01203	.09262	.00988	.01236	.07074	.00491	.40834	.22870
4.99	-6.070	.46298	.01078	.06946	.00773	.00922	.06819	.00491	.40951	.22654
4.99	-4.050	.46112	.01229	.04758	.00559	.00828	.06779	.00491	.40794	.22546
4.99	-2.030	.45857	.01516	.02767	.00405	.00314	.06750	.00481	.40569	.22428
4.99	.000	.45984	.01566	.00716	.00163	.00000	.06838	.00481	.40647	.22556
4.99	2.010	.45984	.01343	-.01136	-.00166	-.00226	.06750	.00481	.40687	.22477
4.99	4.030	.45828	.01341	-.03453	-.00332	-.00569	.06832	.00491	.40579	.22351
4.99	6.050	.45631	.01299	-.05573	-.00546	-.00912	.06779	.00491	.40343	.22369
4.99	8.070	.45435	.01393	-.07878	-.00693	-.01226	.06897	.00510	.40117	.22418
4.99	10.000	.45258	.01603	-.10076	-.00907	-.01432	.07035	.00510	.39902	.22487
4.99	GRADIENT	-.00022	.00003	-.01006	-.00119	-.00145	-.00015	-.00000	-.00016	-.00022

(R92032) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.400
 AILRON = 8.080 BDFLAP = -11.700
 SPDRBK = 22.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 59/ 0 RW/L = 4.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	QM	CY	CYN	CEL	CAP	CAB	CL	CD
4.99	-10.010	.51793	-.03167	.11793	.00931	.02737	.07819	.00491	.45739	.25328
4.99	-8.090	.52107	-.03346	.09595	.00658	.02453	.07662	.00500	.46092	.25489
4.99	-6.070	.51950	-.03262	.07348	.00472	.02119	.07515	.00510	.45994	.25293
4.99	-4.040	.52224	-.02919	.05229	.00278	.01825	.07407	.00500	.46289	.25293
4.99	-2.020	.51891	-.02731	.03041	.00094	.01432	.07299	.00481	.46014	.25077
4.99	.000	.51567	-.02533	.01060	-.00158	.01079	.07329	.00471	.45700	.24989
4.99	2.010	.51243	-.02538	-.00854	-.00458	.00785	.07290	.00481	.45415	.24832
4.99	4.030	.50870	-.02379	-.02973	-.00613	.00383	.07192	.00481	.45102	.24606
4.99	6.050	.50576	-.02345	-.05219	-.00818	.00000	.07231	.00491	.44807	.24537
4.99	8.100	.50380	-.02291	-.07925	-.00935	-.00373	.07427	.00520	.44552	.24655
4.99	10.000	.49791	-.02116	-.09782	-.01199	-.00687	.07496	.00540	.43983	.24508
GRADIENT		-.00166	.00063	-.01006	-.00116	-.00176	-.00022	-.00002	-.00147	-.00080

MSFC 581(0449) CRB 34-0 (BCFM) (NE) (VR)

(R92033) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = -5.830
 AILRON = 9.320 BDFLAP = -11.700
 SPDRBK = 22.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 60/ 0 RW/L = 4.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	QM	CY	CYN	CEL	CAP	CAB	CL	CD
4.99	-10.020	.48515	-.03550	.12009	.01148	.02237	.07339	.00491	.42845	.23919
4.99	-8.090	.48732	-.03633	.09854	.00894	.01982	.07172	.00491	.43100	.23841
4.99	-6.070	.48722	-.03528	.07568	.00708	.01668	.07054	.00500	.43139	.23723
4.99	-4.070	.48575	-.03453	.05180	.00484	.01344	.06885	.00500	.43022	.23603
4.99	-2.030	.48516	-.03135	.02934	.00338	.01020	.06927	.00481	.42982	.23537
4.99	.010	.48015	-.03064	.01011	.00077	.00687	.07015	.00481	.42492	.23439
4.99	2.010	.48241	-.03100	-.01109	-.00245	.00392	.06995	.00471	.42708	.23498
4.99	4.030	.47495	-.03035	-.03414	-.00470	.00000	.06956	.00481	.42021	.23203
4.99	6.050	.47456	-.03006	-.05661	-.00606	-.00353	.07074	.00500	.41942	.23291
4.99	8.080	.47113	-.03017	-.07976	-.00772	-.00657	.07172	.00500	.41589	.23262
4.99	10.000	.46583	-.03144	-.10429	-.01057	-.00942	.07319	.00530	.41050	.23213
GRADIENT		-.00120	.00043	-.01049	-.00123	-.00164	.00000	-.00002	-.00112	-.00042



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TABULATED SOURCE DATA - 0449

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N6FC 581(0449) ORB 34-0 (BCFN) (WE) (WR)

(R92034) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6400 IN.
 BREF = 936.7500 IN.
 SCALE = .0040

ALPHA = 20.000
 AILEON = 9.330
 SPDRK = 22.550
 CONF1 = 1.000

PARAMETRIC DATA

ELEVTR = -14.270
 BDFLAP = -11.790
 RUDDER = .000

RUN NO. 61/ 0 RW/L = 4.85 GRADIENT INTERVAL = -5.00/ 5.00

MAOH	BETA	CN	CLN	CY	CYN	COL	CAP	CAB	CL	CD
4.959	-10.020	.47240	.00677	.11567	.01243	.01913	.07241	.00481	.41677	.23370
4.959	-8.090	.46907	.00497	.09436	.00970	.01658	.07044	.00481	.41442	.23076
4.959	-6.070	.46895	.00634	.07192	.00654	.01374	.06846	.00491	.41560	.23017
4.959	-4.070	.46750	.00756	.04994	.00561	.01060	.06897	.00481	.41324	.22879
4.959	-2.030	.46809	.00999	.02943	.00407	.00756	.06807	.00481	.41393	.22909
4.959	.000	.46191	.00960	.00893	.00115	.00422	.06817	.00481	.40814	.22693
4.959	2.010	.46328	.01127	.01089	.00156	.00157	.06846	.00471	.40942	.22781
4.959	4.030	.46043	.01068	.00404	.00362	.00235	.06848	.00481	.40706	.22585
4.959	6.050	.45680	.01107	.00651	.00517	.00510	.06866	.00481	.40324	.22565
4.959	8.070	.45661	.01184	.00635	.00655	.00614	.07192	.00500	.40225	.22772
4.959	10.000	.44886	.01210	.00360	.00899	.01060	.07319	.00520	.39460	.22615
	GRADIENT	-.00292	.00039	-.01029	-.00119	-.00157	-.00203	-.00003	-.00083	-.00035

N3FC 561(0449) CRB 34-0 (BCFM) (WE) (NR)

(R92035) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XREF = 1081.3900 IN.
 LREF = 481.6480 IN. YREF = .0000 IN.
 BREF = 936.7000 IN. ZREF = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = .000
 SPDRBK = .000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 241/ 0 RW/L = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.601	-10.540	-.54363	.01028	-.01020	.00286	-.00039	.02551	.02600	-.52980	.12460
.601	-8.590	-.44228	.01093	-.01275	.00343	.00049	.02816	.02433	-.43326	.09360
.601	-6.440	-.32867	.02697	-.00844	.00209	.00116	.03100	.02472	-.32308	.06770
.601	-4.370	-.22850	.00718	-.00716	.00151	.00035	.03944	.02512	-.22477	.05681
.601	-2.280	-.13618	.00750	-.00648	.00142	.00059	.04582	.02521	-.13422	.05121
.601	-.170	-.04945	.01149	-.00716	.00112	.00020	.04690	.02561	-.04935	.04750
.601	1.890	.05298	.00926	-.00687	.00171	.00000	.04680	.02531	.05141	.04847
.601	3.980	.15227	.00736	-.00981	.00188	-.00098	.04209	.02580	.14893	.05259
.601	6.100	.26215	.00551	-.01099	.00177	-.00098	.03463	.02600	.25695	.06230
.601	8.190	.37459	.00008	-.00942	.00149	-.00078	.02629	.02718	.36703	.07937
.601	10.250	.47643	-.00187	-.00873	.00052	-.00245	.01952	.02718	.46534	.10360
GRADIENT		.04555	.00010	-.00227	.00005	-.00016	.00030	.00007	.04470	-.00054

RUN NO. 242/ 0 RW/L = 6.27 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.900	-11.060	-.70206	.07052	-.01246	.00225	.00059	.05072	.03238	-.67932	.18455
.900	-8.980	-.57801	.06131	-.01305	.00215	.00059	.05004	.03149	-.56119	.13942
.900	-6.800	-.44846	.04623	-.01099	.00187	-.00098	.05161	.03002	-.43914	.10439
.900	-4.630	-.32897	.03895	-.01099	.00226	-.00010	.04945	.02786	-.32386	.07594
.900	-2.420	-.20230	.03304	-.01236	.00245	.00029	.05563	.02747	-.19975	.06416
.900	-.230	-.08555	.03045	-.01158	.00226	.00069	.05739	.02727	-.08536	.05779
.900	1.930	.04219	.01973	-.01109	.00256	.00049	.05818	.02669	.04013	.05365
.900	4.130	.16237	.01430	-.01452	.00381	.00177	.05671	.02727	.15786	.06829
.900	6.300	.28001	.00747	-.01481	.00370	.00137	.05750	.02718	.27196	.08771
.900	8.460	.39676	-.00566	-.01374	.00312	.00157	.06161	.02875	.38332	.11930
.900	10.540	.50419	-.01507	-.01197	.00216	.00049	.06328	.03120	.48408	.15452
GRADIENT		.05611	-.00286	-.00227	.00015	.00018	.00078	-.00009	.05502	-.00091

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TABULATED SOURCE DATA - 0449

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MSFC 561 (X-19) CRB 34-0 (BCFN) (ME) (VR)

(R92039) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 50. FT XMRP = 1081.3900 IN.
 LREF = 481.6400 IN. YMRP = .0000 IN.
 BREF = 936.7900 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 ALLRON = -.670 BCFLAP = .000
 SPDRK = .000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 243/ 0 RWL = 6.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.199	-11.200	-68806	.13799	-.00110	.00290	-.00235	.12470	.05367	-.66048	.25793
1.199	-9.080	-.57503	.12061	-.00471	.00192	-.00255	.12627	.05386	-.54785	.21555
1.199	-6.850	-.42509	.10126	-.00441	.00124	-.00285	.12656	.05249	-.42384	.17846
1.199	-4.640	-.30297	.07534	-.00441	.00104	-.00343	.12646	.05004	-.29168	.15090
1.199	-2.390	-.18031	.04251	-.00628	.00220	-.00392	.12676	.04464	-.15482	.13333
1.199	-1.170	-.02345	.01355	-.00618	.00230	-.00441	.12862	.04395	-.02306	.12862
1.199	2.020	.11342	-.01550	-.00687	.00279	-.00412	.12823	.04395	.10880	.13216
1.199	4.250	.25283	-.04229	-.00814	.00307	-.00343	.12794	.04523	.24263	.14638
1.199	6.500	.38891	-.06575	-.00805	.00327	-.00226	.12529	.04562	.37213	.16855
1.199	8.710	.52244	-.08373	-.00805	.00278	-.00029	.12274	.04650	.49772	.20934
1.199	10.860	.64576	-.09656	-.00746	.00229	-.00118	.11960	.04807	.61162	.23910
GRADIENT		.06245	-.01322	-.00237	.00021	-.00001	.00020	-.00047	.06004	-.00043

RUN NO. 250/ 0 RWL = 6.46 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.463	-11.060	-.58894	.08734	-.00412	.00222	-.00324	.11871	.03787	-.53559	.22565
1.463	-8.980	-.35523	.07126	-.00589	.00260	-.00294	.12126	.03905	-.43080	.19073
1.463	-6.750	-.33966	.05202	-.00667	.00240	-.00324	.12372	.04023	-.32298	.16286
1.463	-4.580	-.22919	.03307	-.00638	.00220	-.00314	.12568	.04130	-.21839	.14354
1.463	-2.370	-.11950	.01355	-.00726	.00249	-.00285	.12597	.04121	-.11420	.13078
1.463	-1.180	-.01187	-.00367	-.00677	.00259	-.00265	.12568	.04023	-.01148	.12578
1.463	2.020	.09674	-.02254	-.00736	.00278	-.00245	.12333	.03699	.09232	.12666
1.463	4.200	.21329	-.04195	-.00775	.00278	-.00216	.11979	.03512	.20397	.13510
1.463	6.400	.32514	-.05941	-.00805	.00258	-.00186	.11626	.03322	.31013	.15188
1.463	8.600	.43758	-.07820	-.00824	.00278	-.00078	.11381	.03381	.41511	.17787
1.463	10.700	.54412	-.09219	-.00844	.00248	-.00020	.11194	.03660	.51390	.21104
GRADIENT		.05021	-.00331	-.00013	.00007	.00011	-.00066	-.00076	.04794	-.00096

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TABULATED SOURCE DATA - 0449

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MSFC 581(0449) ORB 34-0 (BCFM) (WE) (VR)

(R92035) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.5900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = .000
 SPDRBK = .000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 291/ 0 RWL = 6.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.967	-10.970	-.43188	.01690	-.00275	.00331	-.00196	.11116	.02394	-.40284	.19132
1.967	-8.900	-.35016	.01133	-.00383	.00340	-.00186	.11106	.02492	-.32877	.16394
1.967	-6.720	-.26529	.00563	-.00441	.00310	-.00196	.11047	.02610	-.25048	.14079
1.967	-4.560	-.18317	-.00138	-.00520	.00319	-.00196	.11165	.02757	-.17366	.12588
1.967	-2.380	-.09742	-.00978	-.00520	.00300	-.00196	.11018	.02826	-.09281	.11420
1.967	-.220	-.01648	-.01835	-.00540	.00310	-.00177	.10900	.02963	-.01599	.10910
1.967	1.940	.06750	-.02832	-.00559	.00319	-.00167	.10851	.02875	.06387	.11077
1.967	4.100	.14913	-.03814	-.00530	.00310	-.00147	.10694	.02786	.14118	.11734
1.967	6.270	.23527	-.04818	-.00589	.00299	-.00118	.10635	.02806	.22222	.13147
1.967	8.440	.31425	-.05466	-.00608	.00280	-.00098	.10302	.02747	.29571	.14805
1.967	10.520	.40029	-.06015	-.00628	.00250	-.00078	.10154	.02816	.37498	.17297
GRADIENT		.03833	-.00425	-.00003	-.00000	.00006	-.00051	.00005	.03634	-.00095

RUN NO. 92/ 0 RWL = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.410	-.30051	-.03207	-.00177	.00234	-.00137	.10419	.01589	-.27667	.15678
2.990	-8.450	-.24744	-.03316	-.00186	.00224	-.00128	.10135	.01599	-.22978	.13667
2.990	-6.390	-.19387	-.03298	-.00245	.00214	-.00088	.09929	.01629	-.18160	.12028
2.990	-4.350	-.14099	-.03117	-.00304	.00213	-.00078	.09811	.01697	-.13314	.10851
2.990	-2.270	-.08958	-.02957	-.00235	.00234	-.00059	.09703	.01737	-.08565	.10047
2.990	-.210	-.03679	-.02786	-.00294	.00223	-.00039	.09497	.01766	-.03640	.09507
2.990	1.840	.01894	-.02736	-.00314	.00194	-.00049	.09311	.01805	.01599	.09370
2.990	3.910	.07353	-.02755	-.00285	.00184	-.00049	.09134	.01835	.06721	.09615
2.990	5.950	.13088	-.02634	-.00078	.00197	-.00020	.08850	.01795	.12097	.10154
2.990	8.040	.19387	-.02785	-.00245	.00194	-.00029	.08506	.01805	.18003	.11136
2.990	10.010	.25450	-.03114	-.00294	.00164	-.00049	.08300	.01786	.23615	.12597
GRADIENT		.02606	.00046	-.00002	-.00005	.00003	-.00085	.00017	.02435	-.00153

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TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) ORB 34-0 (BCFM) (WE) (VR)

(R92035) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 ALLRON = -.670 BDFLAP = .000
 SPDRK = .000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 91/ 0 RVL = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.230	-.23704	-.04943	-.01236	.00166	-.00029	.09978	.00441	-.21555	.14030
4.959	-8.300	-.20338	-.04484	-.01109	.00305	-.00039	.09527	.00441	-.18749	.12372
4.959	-6.270	-.16826	-.04128	-.01060	.00276	-.00020	.09213	.00471	-.15717	.10998
4.959	-4.270	-.13039	-.03767	-.01069	.00315	-.00039	.08820	.00500	-.12342	.09772
4.959	-2.220	-.08810	-.03535	-.01089	.00207	-.00010	.08349	.00530	-.08477	.08693
4.959	-.190	-.04768	-.03422	-.00903	.00257	.00000	.08016	.00530	-.04749	.08035
4.959	1.830	-.00618	-.03124	-.00912	.00248	.00000	.07761	.00540	-.00863	.07741
4.959	3.860	.03856	-.03014	-.00795	.00190	-.00039	.07486	.00559	.03346	.07721
4.959	5.870	.08310	-.02827	-.00746	.00170	-.00039	.07182	.00569	.07535	.07996
4.959	7.930	.13225	-.02507	-.00687	.00191	-.00049	.07044	.00569	.12126	.08051
4.959	9.860	.18464	-.02462	-.00638	.00191	-.00069	.06946	.00579	.17003	.10007
	GRADIENT	.02067	.00094	.00036	-.00010	.00000	-.00160	.00006	.01920	-.00249

MSFC 561(0449) CRB 34-0 (BCFN) (WE) (VR)

(R92036) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = -10.000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 247/ 0 RW/L = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
.599	-10.060	-.05720	.02017	.15737	.00031	-.00099	.03259	.02992	-.05700	.05278
.599	-8.150	-.06750	.02687	.11832	.00499	-.00275	.03789	.02943	-.06730	.05808
.599	-6.110	-.07339	.03191	.07515	.00935	-.00500	.06024	.02845	-.07319	.06053
.599	-4.100	-.07741	.03677	.03675	.01356	-.00677	.06259	.02796	-.07721	.06289
.599	-2.040	-.08231	.03960	.00324	.01533	-.00824	.06475	.02806	-.08212	.06505
.599	-.010	-.08702	.03962	-.03493	.01816	-.00971	.06603	.02865	-.08683	.06632
.599	2.000	-.09026	.03802	-.07064	.02042	-.01109	.06573	.02953	-.08997	.06603
.599	4.050	-.08801	.03631	-.10596	.02346	-.01236	.06583	.03002	-.08771	.06613
.599	6.090	-.08761	.03381	-.14285	.02591	-.01374	.06465	.03120	-.08742	.06495
.599	8.100	-.08918	.03223	-.17778	.02709	-.01364	.06465	.03316	-.08899	.06495
.599	10.060	-.08948	.03145	-.20564	.02627	-.01148	.06446	.03503	-.08918	.06475
GRADIENT		-.00143	-.00010	-.01786	.00122	-.00069	.00037	.00027	-.00142	.00037

RUN NO. 248/ 0 RW/L = 6.21 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
.897	-10.240	-.09330	.03333	.19210	-.00686	-.00196	.06652	.03404	-.09301	.06691
.897	-8.280	-.09173	.03838	.15325	-.00345	-.00206	.06789	.02953	-.09144	.06829
.897	-6.220	-.09703	.04536	.10724	.00216	-.00334	.06740	.02826	-.09674	.06779
.897	-4.160	-.11175	.05228	.05906	.00912	-.00569	.06976	.02718	-.11136	.07025
.897	-2.090	-.11293	.05768	.01128	.01530	-.00824	.07182	.02708	-.11263	.07231
.897	-.030	-.12117	.06054	-.03032	.01918	-.00981	.07417	.02718	-.12087	.07466
.897	2.000	-.12156	.05976	-.07133	.02345	-.01177	.07486	.02855	-.12117	.07545
.897	4.090	-.12342	.05606	-.11528	.02809	-.01383	.07486	.02992	-.12303	.07545
.897	6.150	-.12480	.05642	-.15688	.03138	-.01393	.07721	.03149	-.12440	.07780
.897	8.220	-.13284	.05610	-.19485	.03303	-.01256	.07810	.03316	-.13245	.07872
.897	10.190	-.13569	.05199	-.22556	.03190	-.01030	.07770	.03640	-.13529	.07839
GRADIENT		-.00155	.00047	-.02095	.00224	-.00096	.00064	.00034	-.00155	.00066

DATE 18 JUL 74

TABULATED SOURCE DATA - CM49

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MSFC 581(CM49) CRB 34-0 (BCFN) (ME) (VR)

(R92036) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1061.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDPRK = 25.550 RUDDER = -10.000
 CONFIG = 1.000

RUN NO. 249/ 0 RV/L = 6.62 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.199	-10.350	-.07437	.05997	.19691	-.00859	.00875	.15207	.09072	-.07388	.15237
1.199	-8.350	-.07623	.06158	.15708	-.00577	.00579	.15462	.04935	-.07564	.15492
1.199	-6.270	-.07672	.06532	.11342	-.00103	.00167	.15698	.04827	-.07613	.15717
1.199	-4.190	-.07721	.06937	.06966	.00430	-.00226	.15963	.04729	-.07672	.15992
1.199	-2.110	-.07731	.07111	.02590	.00924	-.00628	.16110	.04631	-.07682	.16139
1.199	-.030	-.08035	.07241	-.01589	.01302	-.00961	.16178	.04513	-.07976	.16208
1.199	2.030	-.08359	.07246	-.05730	.01759	-.01324	.16139	.04454	-.08300	.16169
1.199	4.110	-.08516	.07195	-.10174	.02242	-.01737	.16326	.04758	-.08457	.16355
1.199	6.190	-.09232	.07338	-.14609	.02725	-.02090	.16384	.04974	-.09173	.16424
1.199	8.250	-.10037	.07335	-.18788	.03093	-.02384	.16532	.05249	-.09968	.16581
1.199	10.250	-.11987	.07467	-.22565	.03258	-.02541	.16640	.05386	-.10792	.16689
	GRADIENT	-.00107	.00031	-.02054	.00213	-.00179	.00036	-.00006	-.00105	.00036

MSFC 581(0A49) CRB 34-0 (BCFN)(WE)(WR)

(R92037) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 10.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = -10.000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 256/ 0 RW/L = 4.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	QLM	CY	CYN	CBL	CAP	CAB	CL	CD
.596	-10.080	.45455	.01084	.16800	-.00364	.01727	.02639	.03247	.44228	.10812
.596	-8.150	.44935	.01394	.15196	-.00078	.01295	.02767	.03208	.43689	.10841
.596	-6.110	.44503	.01823	.09389	.00263	.00775	.03012	.02973	.43228	.10998
.596	-4.100	.44464	.02219	.05455	.00692	.00206	.03277	.02904	.43139	.11263
.596	-2.040	.44258	.02322	.01805	.00966	-.00275	.03610	.02884	.42874	.11548
.596	-.010	.43800	.02389	-.01874	.01250	-.00755	.03807	.02816	.42197	.11616
.596	2.000	.43865	.02190	-.05524	.01515	-.01168	.03905	.02992	.42433	.11763
.596	4.050	.43836	.01841	-.08997	.01780	-.01580	.03983	.03247	.42394	.11832
.596	6.080	.43748	.01463	-.12745	.02054	-.02051	.03846	.03238	.42335	.11685
.596	8.100	.43561	.01295	-.16296	.02329	-.02404	.03798	.03346	.42168	.11538
.596	10.000	.43228	.01270	-.19269	.02324	-.02600	.03699	.03571	.41854	.11440
.596	GRADIENT	-.00081	-.00044	-.01781	.00134	-.00219	.00084	.00039	-.00095	.00067

RUN NO. 257/ 0 RW/L = 6.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	QLM	CY	CYN	CBL	CAP	CAB	CL	CD
.903	-10.290	.47701	-.00486	.19240	.00178	.01432	.07064	.03581	.45553	.15825
.903	-8.310	.47495	-.00180	.15384	.00254	.01069	.07192	.03424	.45317	.15914
.903	-6.240	.47701	.00085	.10999	.00630	.00697	.07476	.03159	.45474	.16237
.903	-4.180	.46720	.00707	.06505	.01064	.00304	.07643	.03140	.44474	.16218
.903	-2.110	.46661	.00938	.02021	.01488	.00000	.07839	.03130	.44385	.16384
.903	-.040	.46426	.01031	-.01982	.01740	-.00471	.08045	.03179	.44120	.16541
.903	2.010	.46171	.00998	-.05769	.01954	-.01011	.08153	.03247	.43846	.16600
.903	4.080	.46279	.00884	-.09880	.02244	-.01442	.08222	.03375	.43934	.16689
.903	6.150	.46141	.00717	-.13853	.02418	-.01795	.08271	.03532	.43797	.16718
.903	8.210	.45955	.00492	-.17778	.02523	-.02080	.08290	.03807	.43610	.16889
.903	10.200	.45798	.00172	-.21074	.02398	-.02198	.08284	.04111	.42904	.16895
.903	GRADIENT	-.00067	.00020	-.01963	.00137	-.00218	.00071	.00029	-.00078	.00056

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MFC 581(0A49) CRB 34-0 (BCFN)(WE) (VR)

(R92037) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 10.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = -10.000
 CONF16 = 1.000

RUN NO. 256/ 0 RN/L = 6.62 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.209	-10.330	.58425	-.05625	.19933	.00739	.01864	.13961	.05327	.54677	.24881
1.209	-8.350	.58445	-.05586	.12303	.00876	.01472	.14295	.05043	.54628	.25214
1.209	-6.270	.58503	-.05362	.08673	.01033	.01030	.14520	.04856	.54648	.25460
1.209	-4.210	.58454	-.05179	.05151	.01171	.00530	.14707	.04817	.54599	.25627
1.209	-2.120	.58160	-.05368	.01727	.01329	-.00039	.14785	.04866	.54255	.25636
1.209	-.040	.57777	-.04977	-.01629	.01399	-.00579	.14864	.04700	.53873	.25646
1.209	2.010	.57199	-.04677	-.04974	.01539	-.00961	.14913	.04680	.53294	.25577
1.209	4.100	.56620	-.04483	-.08585	.01735	-.01393	.15050	.05151	.52705	.25587
1.209	6.180	.55982	-.04261	-.12146	.01951	-.01874	.15345	.05494	.52018	.25754
1.209	8.240	.54873	-.03882	-.15668	.02030	-.02296	.15590	.05671	.50890	.25764
1.209	10.240	.54304	-.03572	-.19033	.02081	-.02688	.15609	.05730	.50341	.25676
GRADIENT		-.00223	.00100	-.01647	.00064	-.00230	.00039	.00023	-.00225	-.00007

RUN NO. 75/ 0 RN/L = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.150	.25018	-.02579	.15580	.00501	.01295	.08977	.01854	.23017	.13274
2.990	-8.190	.24636	-.02363	.12460	.00465	.01030	.09007	.01825	.22644	.13235
2.990	-6.140	.24351	-.02019	.09105	.00555	.00687	.09105	.01835	.22340	.13284
2.990	-4.120	.24165	-.01452	.05671	.00763	.00334	.09252	.01825	.22134	.13402
2.990	-2.080	.23762	-.00946	.02590	.00816	.00000	.09458	.01776	.21702	.13529
2.990	-.020	.23439	-.00748	-.00334	.00802	-.00275	.09605	.01776	.21359	.13618
2.990	2.010	.23301	-.00614	-.03267	.00787	-.00569	.09742	.01805	.21202	.13736
2.990	4.090	.23036	-.00503	-.06161	.00793	-.00834	.09958	.01825	.20898	.13892
2.990	6.080	.23076	-.00657	-.09399	.00875	-.01148	.09988	.01835	.20927	.13922
2.990	8.140	.22703	-.00827	-.12754	.00935	-.01442	.10076	.01815	.20554	.13951
2.990	10.080	.22693	-.00895	-.15727	.00872	-.01688	.10174	.01825	.20525	.14040
GRADIENT		-.00133	.00109	-.01446	.00002	-.00142	.00083	.00001	-.00146	.00058

MSFC 581(0449) ORB 34-0 (BCFM) (WE) (VR)

(R92037) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 10.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = -10.000
 CONF16 = 1.000

RUN NO. 76/ 0 RWL = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.010	.17287	-.02103	.12911	.00646	.01217	.07348	.00549	.15727	.10253
4.959	-8.090	.17552	-.01867	.10331	.00585	.01030	.07280	.00549	.16012	.10243
4.959	-6.070	.17169	-.01834	.07829	.00535	.00795	.07211	.00559	.15639	.10105
4.959	-4.070	.16944	-.01654	.05318	.00485	.00520	.07201	.00569	.15413	.10056
4.959	-2.030	.16748	-.01541	.02610	.00463	.00206	.07270	.00559	.15217	.10086
4.959	-.010	.16600	-.01147	.00098	.00511	-.00088	.07447	.00559	.15040	.10243
4.959	2.010	.16375	-.01015	-.02463	.00510	-.00392	.07535	.00549	.14795	.10282
4.959	4.030	.16424	-.00918	-.04974	.00489	-.00657	.07653	.00530	.14834	.10410
4.959	6.030	.16031	-.00711	-.07486	.00449	-.00922	.07849	.00559	.14412	.10537
4.959	8.070	.15815	-.00618	-.10007	.00379	-.01148	.07996	.00559	.14167	.10645
4.959	9.990	.15501	-.00787	-.12656	.00249	-.01383	.08192	.00569	.13824	.10773
GRADIENT		-.00070	.00099	-.01268	.00003	-.00146	.00058	-.00004	-.00078	.00045

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) CRB 34-0 (BCFM) (WE) (VR)

(R92038) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = -10.000
 CONF16 = 1.000

RUN NO. 265/ 0 RWL = 4.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.903	-10.090	1.06313	-.03390	.17464	-.00396	.00706	.01903	.04641	.98425	.40245
.903	-8.150	1.05577	-.02367	.13137	.00137	.00285	.02325	.04582	.97571	.40373
.903	-6.110	1.06156	-.01236	.09036	.00506	.00029	.02580	.04474	.98022	.40843
.903	-4.100	1.05979	-.00465	.05327	.00829	-.00137	.02610	.04425	.97836	.40814
.903	-2.040	1.06421	-.00467	.01079	.01186	-.00255	.02914	.04386	.98140	.41265
.903	.000	1.06843	-.00519	-.03189	.01602	-.00441	.02865	.04356	.98542	.41383
.903	2.010	1.07274	-.00734	-.07829	.02075	-.00628	.02904	.04405	.98925	.41570
.903	4.060	1.07000	-.01029	-.11773	.02376	-.00903	.02786	.04160	.98729	.41354
.903	6.100	1.06489	-.01665	-.15590	.02550	-.01423	.02571	.04405	.98336	.40951
.903	8.120	1.06352	-.02180	-.18710	.02643	-.01874	.02423	.04700	.98258	.40755
.903	10.070	1.05852	-.02865	-.21859	.02715	-.02306	.02541	.04601	.97758	.40667
GRADIENT		.00142	-.00068	-.02116	.00195	-.00093	.00017	-.00025	.00126	.00068

RUN NO. 266/ 0 RWL = 6.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.903	-10.440	.98111	.01876	.13706	.05509	.01962	.07908	.05769	.88123	.43846
.903	-8.450	.98827	.01239	.10792	.04867	.01197	.08212	.05720	.88663	.44415
.903	-6.330	.98915	.00999	.06652	.04205	.00805	.08771	.05553	.88535	.44974
.903	-4.220	.98660	.00966	.03090	.03440	.00216	.09124	.05455	.88182	.45180
.903	-2.120	.97885	.01157	-.00363	.02823	-.00216	.09360	.05533	.87987	.45082
.903	-.030	.97758	.01425	-.03453	.02150	-.00716	.09428	.05524	.87230	.45092
.903	2.050	.97561	.01442	-.06505	.01507	-.01285	.09262	.05543	.87122	.44856
.903	4.140	.96992	.01404	-.09693	.00980	-.01795	.09026	.05573	.86681	.44444
.903	6.240	.97659	.01346	-.12921	.00257	-.02217	.08634	.05200	.87446	.44317
.903	8.350	.97797	.01823	-.14874	-.01623	-.02600	.08457	.05141	.87633	.44238
.903	10.370	.97179	.01455	-.18268	-.02230	-.02463	.07770	.05033	.87309	.43355
GRADIENT		-.00175	.00056	-.01518	-.00298	-.00244	-.00014	.00012	-.00156	-.00081

MSFC 581(0A49) OFB 34-0 (BCFM) (WE) (VR)

(R92038) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 20.000
 AILRON = -.670
 SPDPRK = 25.550
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 267/ 0 RWL = 6.62 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	YN	CLL	CAP	CAB	CL	CD
1.200	-10.480	1.14780	-.09241	.15021	.03528	.01727	.12784	.05946	1.01290	.55491
1.200	-8.470	1.15692	-.09507	.11400	.03174	.01275	.13206	.05975	1.01957	.56247
1.200	-6.350	1.16350	-.09584	.07555	.02809	.00765	.13843	.06220	1.02310	.57091
1.200	-4.260	1.16536	-.09329	.04032	.02417	.00206	.14491	.06377	1.02241	.57777
1.200	-2.140	1.16669	-.09147	.00814	.02038	-.00206	.14569	.06446	1.01603	.57571
1.200	-.030	1.14996	-.08561	-.02727	.01724	-.00550	.14412	.06240	1.00858	.57091
1.200	2.060	1.14927	-.08601	-.05465	.01132	-.00863	.14442	.06328	1.00789	.57071
1.200	4.160	1.14466	-.08821	-.07986	.00464	-.01295	.14069	.06407	1.00514	.56551
1.200	6.280	1.14642	-.08675	-.10998	-.00159	-.01648	.13843	.06181	1.00760	.56414
1.200	8.370	1.12935	-.08246	-.14255	-.00696	-.02178	.13500	.06044	.99327	.55403
1.200	10.400	1.11768	-.07578	-.17748	-.01078	-.02590	.13579	.06073	.98238	.55011
GRADIENT		-.00242	.00074	-.01443	-.00229	-.00174	-.00046	-.00003	-.00203	-.00140

RUN NO. 78/ 0 RWL = 4.36 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CLL	CAP	CAB	CL	CD
2.990	-10.130	.60152	-.03392	.13785	.01359	.01952	.08025	.01913	.53333	.28943
2.990	-8.190	.60250	-.03187	.10851	.01276	.01501	.08055	.01923	.53421	.29011
2.990	-6.150	.60044	-.02929	.07918	.01154	.01099	.08143	.01913	.53186	.29021
2.990	-4.120	.59838	-.02623	.04915	.01090	.00579	.08173	.01854	.52990	.28972
2.990	-2.060	.59651	-.02220	.02070	.00998	.00118	.08496	.01854	.52695	.29217
2.990	-.010	.59367	-.02157	-.00157	.00617	-.00196	.08408	.01786	.52460	.29031
2.990	2.020	.59180	-.02169	-.02207	.00149	-.00481	.08418	.01795	.52283	.28962
2.990	4.070	.58994	-.02211	-.04709	-.00127	-.00903	.08339	.01835	.52146	.28835
2.990	6.090	.58906	-.02280	-.07515	-.00248	-.01305	.08428	.01854	.52028	.28874
2.990	8.160	.58562	-.02266	-.10370	-.00468	-.01717	.08545	.01903	.51665	.28864
2.990	10.100	.58307	-.02232	-.13235	-.00619	-.02090	.08683	.01923	.51381	.28884
GRADIENT		-.00105	.00043	-.01150	-.00160	-.00174	.00013	-.00005	-.00103	-.00026

NSFC 501(0A49) CRB 34-0 (BCFNU (NE) (NR)

(R92038) (22 MAY 74)

REFERENCE DATA

SREF = 2741.6000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7500 IN.
 SCALE = .0040

ALPHA = 20.000
 AILRON = -.670
 SPDRBK = 25.550
 CONFIG = 1.000

ELEVTR = 4.190
 BDFLAP = -11.700
 RUDDER = -10.000

PARAMETRIC DATA

RUN NO. 77/ 0 RV/L = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	LM	CY	CYN	CEL	CAP	CAB	CL	CD
4.99	-10.020	.49919	.02133	.11469	.01360	.01638	.07182	.00579	.44219	.24263
4.99	-8.090	.49978	-.02384	.09213	.01047	.01354	.06995	.00579	.44336	.24106
4.99	-6.090	.50154	-.02120	.06956	.00842	.01090	.06927	.00579	.44523	.24106
4.99	-4.070	.49772	-.01913	.04974	.00649	.00716	.06838	.00569	.44189	.23880
4.99	-2.030	.49654	-.01828	.02990	.00453	.00324	.06848	.00589	.44081	.23861
4.99	.000	.49467	-.01647	.00540	.00240	-.00020	.06936	.00579	.43875	.23870
4.99	2.010	.49291	-.01660	-.01305	-.00060	-.00334	.06868	.00589	.43738	.23743
4.99	4.030	.49193	-.01778	-.03365	-.00400	-.00667	.06848	.00569	.43649	.23694
4.99	6.030	.48957	-.01385	-.05671	-.00478	-.01040	.07123	.00589	.43326	.23861
4.99	8.070	.48810	-.01300	-.08055	-.00635	-.01374	.07280	.00598	.43139	.23968
4.99	10.000	.48055	-.01331	-.10370	-.00870	-.01688	.07437	.00589	.42374	.23841
	GRADIENT	-.00075	.00022	-.01017	-.00129	-.00169	.00002	.00000	-.00070	-.00024

MSFC 581(0449) OFB 34-0 (BCFN) (WE) (WR)

(R92039) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 YMRP = 1081.3900 IN.
 UREF = 481.6480 IN.
 BREF = 936.7500 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 30.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRBK = 25.590 RUDDER = -10.000
 CONFIG = 1.000

RUN NO. 07/ 0 RW/L = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.140	1.00936	-.05120	.12026	.02287	.02423	.08997	.01943	.81300	.60201
2.990	-6.200	1.01211	-.04970	.09340	.02137	.01835	.09193	.01943	.81300	.60525
2.990	-6.150	1.01388	-.04987	.06799	.01832	.01285	.09173	.01923	.81300	.60593
2.990	-4.130	1.01456	-.05005	.04346	.01488	.00755	.09085	.01903	.81303	.60554
2.990	-2.080	1.01515	-.04811	.02109	.01067	.00294	.09046	.01835	.81972	.60554
2.990	-.020	1.01997	-.04716	.00402	.00425	-.00069	.09085	.01825	.81854	.60534
2.990	2.020	1.01133	-.04749	-.01256	-.00285	-.00353	.08977	.01825	.81687	.60299
2.990	4.070	1.00711	-.04717	-.03336	-.00724	-.00854	.08997	.01864	.81324	.60083
2.990	6.090	1.00446	-.04547	-.05828	-.00970	-.01403	.09065	.01874	.81059	.60005
2.990	8.160	.99857	-.04470	-.08290	-.01304	-.01982	.09144	.01894	.80519	.59759
2.990	10.100	.99111	-.04288	-.10979	-.01483	-.02512	.09291	.01894	.79813	.59485
GRADIENT		-.00091	.00031	-.00915	-.00282	-.00189	-.00012	-.00004	-.00070	-.00058

RUN NO. 86/ 0 RW/L = 4.89 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	-10.010	.90105	-.03603	.10370	.01557	.02237	.08289	.00549	.74132	.51606
4.999	-8.090	.90458	-.03701	.06447	.01227	.01835	.06309	.00559	.74427	.51802
4.999	-6.070	.90635	-.03727	.06324	.00907	.01413	.06289	.00559	.74584	.51881
4.999	-4.070	.90988	-.03674	.04670	.00598	.00971	.06299	.00530	.74858	.52067
4.999	-2.030	.90762	-.03445	.02757	.00395	.00550	.06299	.00549	.74682	.51959
4.999	-.010	.90900	-.03191	.01040	.00107	.00098	.06544	.00559	.74672	.52234
4.999	2.010	.90517	-.03400	-.00736	-.00310	-.00353	.06583	.00549	.74339	.52077
4.999	4.030	.90311	-.03174	-.02321	-.00541	-.00716	.06829	.00559	.74025	.52175
4.999	6.030	.89987	-.02954	-.04493	-.00802	-.01207	.07005	.00559	.73682	.52165
4.999	8.070	.89408	-.02954	-.06610	-.01065	-.01648	.07064	.00549	.73132	.51910
4.999	9.990	.88790	-.03031	-.08326	-.01365	-.02051	.07398	.00549	.72435	.51871
GRADIENT		-.00077	.00059	-.00683	-.00147	-.00210	.00066	.00003	-.00099	.00016

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TABULATED SOURCE DATA - 0449

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NSFC 581(0449) ORB 34-0 (BCFM) (UE) (VR)

(R92041) (22 MAY 74)

REFERENCE DATA

SEEF = 2741.0000 58. FT YMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .5040

PARAMETRIC DATA

ALPHA = .000 ELEVTR = 4.160
 AILRON = -.670 BCFAP = -11.700
 SPDRK = 23.550 RUDDER = -20.000
 CONFIC = 1.000

RUN NO. 252/ 0 RW/L = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.999	-10.090	-.06309	.02337	.13333	.01218	-.00775	.05484	.03090	-.06289	.05904
.999	-8.190	-.07044	.03002	.09193	.01665	-.00991	.06024	.03228	-.07025	.06044
.999	-6.120	-.07741	.03990	.05219	.02142	-.01246	.06583	.03081	-.07721	.06613
.999	-4.040	-.08634	.04118	.01393	.02553	-.01482	.06887	.03051	-.08614	.06917
.999	-2.070	-.08375	.04399	-.02374	.02836	-.01580	.07123	.03051	-.08355	.07132
.999	-.010	-.09595	.04458	-.05877	.03023	-.01688	.07201	.03041	-.09065	.07231
.999	2.010	-.09144	.04590	-.09370	.03210	-.01766	.07211	.03110	-.09114	.07241
.999	4.090	-.09477	.04665	-.13000	.03474	-.01903	.07123	.03277	-.09458	.07152
.999	6.090	-.09566	.04112	-.15874	.03504	-.01707	.07251	.03395	-.09536	.07231
.999	8.100	-.09841	.04089	-.18396	.03508	-.01442	.07132	.03561	-.09811	.07182
.999	10.080	-.09772	.03809	-.21074	.02839	-.01246	.07074	.03807	-.09752	.07113
GRADIENT		-.00111	-.00006	-.01759	.00109	-.00053	.00027	.00025	-.00111	.00027

RUN NO. 251/ 0 RW/L = 6.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.896	-10.290	-.09978	.03516	.17032	.00385	-.00654	.06809	.03336	-.09948	.06858
.896	-8.290	-.10115	.04326	.12980	.00823	-.00814	.06936	.03247	-.10086	.06976
.896	-6.230	-.10517	.05287	.08634	.01297	-.00942	.07486	.03012	-.10488	.07335
.896	-4.180	-.11754	.06457	.03680	.02002	-.01138	.08016	.03012	-.11714	.08065
.896	-2.100	-.12431	.07007	-.00942	.02622	-.01403	.08192	.02934	-.12401	.08251
.896	-.040	-.12960	.07182	-.00592	.02970	-.01560	.08360	.02934	-.12921	.08428
.896	2.010	-.13284	.07235	-.09016	.03321	-.01658	.08702	.03110	-.13245	.08771
.896	4.080	-.13471	.06961	-.13323	.03766	-.01835	.08771	.03336	-.13422	.08840
.896	6.190	-.13765	.06937	-.17179	.03901	-.01805	.08771	.03552	-.13726	.08840
.896	8.200	-.14089	.06700	-.20270	.03630	-.01501	.08683	.03640	-.14049	.08751
.896	10.190	-.14825	.06562	-.23556	.03692	-.01246	.09016	.03964	-.14785	.09085
GRADIENT		-.00208	.00062	-.02038	.00205	-.00080	.00098	.00040	-.00206	.00100

MSFC 501(0449) OFB 34-0 (BCFN) (MC) (VR)

(R92041) (22 MAY 74)

REFS. SOURCE DATA

PARAMETRIC DATA

SRDF = 2741.80" . FT XMRP = 1001.3900 IN.
 LREF = 481.62" . YMRP = .0000 IN.
 BRDF = 93.77" . ZMRP = .0000 IN.
 SCALE = .1

ALPHA = .000 ELEVTR = 4.160
 AILRON = -.670 BCFAP = -11.700
 SPDRK = 25.550 RUDDER = -20.000
 CONFIC = 1.000

RUN NO. 250 0 RIVL = 6.62 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
1.197	-10.340	-.07602	.05374	.17240	.00387	.00078	.15160	.05112	-.07604	.15197
1.197	-8.360	-.07819	.06210	.13255	.00897	-.00186	.15433	.05112	-.07761	.15462
1.197	-6.280	-.07967	.06891	.08997	.01114	-.00540	.15786	.04984	-.07908	.15815
1.197	-4.220	-.08516	.07145	.04650	.01579	-.00932	.16257	.04915	-.07967	.16286
1.197	-2.150	-.08428	.07690	.00334	.02003	-.01315	.16371	.04768	-.08369	.16600
1.197	-.050	-.08281	.07731	-.03924	.02929	-.01668	.16718	.04778	-.08222	.16748
1.197	2.000	-.08702	.07685	-.08035	.02907	-.02031	.16659	.04768	-.08344	.16689
1.197	4.100	-.09026	.07816	-.12411	.03401	-.02394	.16934	.05053	-.08967	.16963
1.197	6.100	-.09880	.08179	-.16659	.03797	-.02678	.17239	.05278	-.09791	.17267
1.197	8.240	-.10822	.08435	-.20456	.03943	-.02835	.17366	.05386	-.10753	.17415
1.197	10.250	-.11822	.08554	-.24037	.03953	-.02904	.17424	.05524	-.11744	.17483
	GRADIENT	-.00111	.00064	-.03046	.00215	-.00175	.00070	.00013	-.00110	.00070

DATE 18 JUL 74

TABULATED SOURCE DATA - Q449

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H6FC 561(Q449) ORP 34-0 (BCFN) (NE) (NR)

(R92042) (22 MAY 74)

REFERENCE DATA

SLEF = 2741.0000 SQ. FT
 ULEF = 481.6489 IN.
 BLEF = 936.7000 IN.
 SCALE = .0040

ALPHA = 10.000
 ATLRON = -6.0
 SPDRBK = 23.550
 CONFIG = 1.000

ELEVTR = 4.180
 BCLAP = -11.700
 RUDDER = -20.000

PARAMETRIC DATA

RUN NO. 253/ 0 RW/L = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLN	CY	CYN	CLL	CAP	CAB	CL	CD
.999	-10.080	.45013	.01647	.14049	.00690	.01040	.03140	.03610	.43689	.11234
.999	-8.130	.44326	.02110	.11411	.01232	.00599	.03322	.03463	.42953	.11479
.999	-6.120	.44248	.02392	.06642	.01614	.00500	.03826	.03297	.42825	.11763
.999	-4.060	.43473	.02959	.02983	.01918	.00510	.03954	.03071	.42050	.11744
.999	-2.050	.42992	.03172	.00677	.02212	.01011	.04268	.03081	.41511	.11970
.999	-.020	.42717	.03148	.04209	.02438	.01403	.04444	.03081	.41216	.12087
.999	1.990	.42516	.02995	.07751	.02693	.01835	.04611	.03257	.41275	.12264
.999	4.040	.42992	.02392	.11204	.02891	.02237	.04749	.03552	.41422	.12431
.999	6.060	.43051	.02177	.14864	.03106	.02639	.04601	.03709	.41511	.12303
.999	8.120	.43226	.02054	.17876	.03003	.02718	.04592	.03915	.41687	.12323
.999	10.090	.42413	.02360	.20201	.02728	.02669	.04778	.03150	.40853	.12332
GRADIENT		-.00056	-.00041	-.01748	.00120	-.00211	.00595	.00056	-.00073	.00082

RUN NO. 254/ 0 RW/L = 6.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLN	CY	CYN	CLL	CAP	CAB	CL	CD
.903	-10.300	.47927	-.00183	.16895	.01395	.00814	.07325	.03561	.45690	.16326
.903	-8.330	.47741	.00286	.12902	.01558	.00432	.07967	.03404	.45415	.16738
.903	-6.260	.46985	.01253	.08349	.01962	.00000	.08163	.03306	.44640	.16777
.903	-4.210	.46004	.01924	.03924	.02357	.00334	.07496	.03208	.43620	.16914
.903	-2.140	.45789	.02756	.00167	.02579	.00648	.06647	.03375	.43326	.17209
.903	-.050	.45308	.02377	.04101	.02753	.01020	.09036	.03453	.42835	.17117
.903	1.990	.46073	.01916	.07712	.02880	.01321	.09183	.03552	.43551	.17611
.903	4.080	.45474	.01677	.11803	.03141	.01923	.09262	.03738	.42953	.17572
.903	6.150	.45219	.01854	.15727	.03236	.02139	.09458	.03846	.42668	.17709
.903	8.200	.44680	.01671	.19357	.03216	.02345	.09468	.04081	.42148	.17611
.903	10.200	.43640	.01703	.22232	.02839	.02506	.09311	.04170	.41148	.17249
GRADIENT		-.00037	-.00011	-.01683	.00090	-.00196	.00590	.00060	-.00054	.00043

MSFC 581(0449) CRB 34-0 (BCFN) (WE) (VR)

(R92942) (22 JUL 74)

REFERENCE DATA

XREF = 2741.8000 SQ. FT
 YREF = 481.6480 IN.
 ZREF = 936.7000 IN.
 SCALE = .004G

PARAMETRIC DATA

ALPHA = 10.000 ELEVTR = 4.180
 AILRON = -.670 BCFAP = -11.700
 SPDRK = 25.550 RUDDER = -20.000
 CONFIG = 1.000

RUN NO. 255/ 0 RV/L = 6.62 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.201	-10.350	.58366	-.05480	.13657	.01917	.01168	.14275	.05406	.54550	.25175
1.201	-6.370	.58474	-.05151	.10204	.01997	.00824	.14785	.05161	.54539	.25705
1.201	-6.280	.58523	-.04936	.06803	.02115	.00402	.15119	.05043	.54540	.26048
1.201	-4.230	.58297	-.04727	.03140	.02253	-.00088	.15452	.05023	.54255	.26323
1.201	-2.130	.58582	-.04624	-.00226	.02363	-.00667	.15639	.05072	.53990	.26460
1.201	-.050	.57571	-.04342	-.03532	.02414	-.01198	.15560	.04817	.53529	.26284
1.201	1.990	.57248	-.04173	-.06868	.02534	-.01540	.15541	.05013	.53215	.26205
1.201	4.990	.56365	-.03888	-.10459	.02720	-.01933	.15845	.05426	.52293	.26323
1.201	6.170	.55766	-.03568	-.13922	.02868	-.02364	.16326	.05651	.51616	.26676
1.201	8.230	.54913	-.03176	.17517	.02909	-.02747	.16394	.05808	.50772	.26578
1.201	10.230	.54245	-.02829	-.20466	.02756	-.03110	.16483	.05946	.50115	.26519
GRADIENT		-.00225	.00103	-.01630	.00053	-.00220	.00033	.00036	-.00226	-.00012

RUN NO. 74/ 0 RV/L = 4.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.130	.25008	-.02966	.14560	.00973	.00981	.08722	.01864	.23066	.13029
2.990	-6.190	.24753	-.02526	.11450	.00997	.00697	.08908	.01835	.22772	.13166
2.990	-6.150	.24400	-.01912	.08045	.01145	.00343	.09262	.01844	.22369	.13451
2.990	-4.130	.23880	-.01069	.04821	.01353	.00000	.09576	.01825	.21800	.13667
2.990	-2.080	.23360	-.00556	.01452	.01415	-.00334	.09870	.01805	.21241	.13863
2.990	-.020	.22958	-.00252	-.01511	.01400	-.00628	.10125	.01795	.20790	.14040
2.990	2.010	.22811	.00161	-.04395	.01387	-.00912	.10400	.01815	.20603	.14285
2.990	4.050	.22448	.00329	-.07290	.01392	-.01177	.10645	.01815	.20201	.14471
2.990	6.970	.22350	.00318	-.10419	.01416	-.01472	.10802	.01825	.20083	.14609
2.990	8.140	.22153	.00228	-.13618	.01399	-.01717	.10890	.01805	.19867	.14688
2.990	10.080	.21879	.00233	-.16679	.01335	-.01943	.11047	.01805	.19573	.14756
GRADIENT		-.00167	.00172	-.01451	.00002	-.00143	.00130	-.00000	-.00188	.00099

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TABULATED SOURCE DATA - 0449

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MFC 581(0449) CRB 34-0 (BCFM) (WE) (VR)

(R92042) (22 MAY 74)

REFERENCE DATA

*REF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

XMRP = 1081.3900 IN.
 YMRP = .0500 IN.
 ZMRP = .0000 IN.

PARAMETRIC DATA

ALPHA = 10.000
 AILRON = -.670
 SPDRK = 25.550
 CONFIG = 1.000
 ELEVTR = 4.160
 BDFLAP = -11.700
 RUDDER = -20.000

RUN NO. 73/ 0 RWL = 4.96 GRADIENT INTERVAL = -.5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.020	.17689	-.02310	.12362	.01024	.01030	.07211	.00549	.16159	.10194
4.959	-8.090	.17607	-.02192	.09713	.00953	.00785	.07309	.00579	.16257	.10311
4.959	-6.070	.17483	-.02119	.07133	.00853	.00540	.07290	.00569	.15933	.10243
4.959	-4.570	.17228	-.01756	.04484	.00871	.00265	.07427	.00569	.15658	.10331
4.959	-1.910	.21565	-.02683	-.07260	-.01011	-.03718	.08065	.00569	.19818	.11724
4.959	-.010	.16993	-.00841	-.00657	-.00956	-.00324	.07888	.00520	.15345	.10743
4.959	2.000	.16551	-.00335	-.03228	.01013	-.00648	.08163	.00608	.14864	.10939
4.959	4.020	.15943	-.00074	-.05602	.00994	-.00912	.08369	.00589	.14236	.11028
4.959	6.020	.16031	-.00141	-.08182	.00963	-.01187	.08565	.00599	.14285	.11243
4.959	8.060	.15619	.00337	-.10567	.00865	-.01354	.08781	.00608	.13843	.11381
4.959	9.990	.15423	.00188	-.13147	.00785	-.01570	.08967	.00569	.13618	.11528
	GRADIENT	-.00367	.00281	-.00824	.00109	.00027	.00100	.00004	-.00378	.00033

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581.0A49) CRB 34-0 (BCFN) (WE) (VR)

(R92043) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 20.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPBRK = 25.550 RUDDER = -20.000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 270/ 0 RWL = 4.90 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.995	-10.090	1.06215	-.03227	.15001	.00702	.00235	.02276	.04336	.98199	.40559
.995	-8.190	1.04458	-.01650	.10351	.01360	-.00324	.02767	.04258	.96374	.40373
.995	-6.120	1.04458	-.00673	.06348	.01749	-.00608	.02992	.04297	.96286	.40598
.995	-4.080	1.04468	.00101	.02829	.02023	-.00746	.03032	.04121	.96286	.40647
.995	-2.040	1.04233	.00126	-.01462	.02333	-.00863	.03316	.04238	.95962	.40834
.995	-.010	1.05538	-.00104	-.05435	.02595	-.01069	.03306	.04121	.97169	.41295
.995	2.020	1.05498	-.00269	-.09762	.03010	-.01168	.03365	.04180	.97110	.41344
.995	4.060	1.04949	-.00684	-.13628	.03234	-.01423	.03316	.04130	.96629	.41079
.995	6.100	1.05067	-.01089	-.17258	.03312	-.01854	.03022	.04327	.96845	.40853
.995	8.120	1.05214	-.01512	-.19357	.02892	-.01982	.03120	.04562	.96953	.40991
.995	10.070	1.04714	-.02042	-.22428	.02985	-.02374	.03208	.04425	.96462	.40873
GRADIENT		.00109	-.00097	-.02007	.00152	-.00082	.00030	-.00002	.00090	.00068

RUN NO. 269/ 0 RWL = 6.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.901	-10.450	.97601	.02013	.12058	.06358	.01472	.08310	.05789	.87495	.44042
.901	-8.460	.98827	.01878	.08781	.05890	.00726	.08859	.05622	.88417	.45023
.901	-6.320	.99847	.01952	.04327	.05363	.00177	.09654	.05327	.89075	.46132
.901	-4.230	.97934	.02192	.00432	.04723	-.00412	.09899	.05602	.87220	.45631
.901	-2.140	.97169	.02373	-.03032	.04135	-.00746	.10272	.05720	.86367	.45680
.901	-.040	.97198	.02268	-.05847	.03307	-.01187	.10351	.05739	.86377	.45749
.901	2.040	.96835	.02368	-.08326	.02530	-.01717	.10145	.05759	.86122	.45425
.901	4.140	.97061	.02420	-.11528	.01799	-.02168	.09752	.05681	.86475	.45151
.901	6.240	.97257	.02375	-.14275	.00864	-.02414	.09281	.05573	.86828	.44788
.901	8.370	.97218	.02519	-.16198	-.01026	-.02512	.08839	.05131	.86946	.44375
.901	10.360	.97103	.02198	-.19475	-.01710	-.02512	.08173	.05072	.87103	.43689
GRADIENT		-.00099	.00022	-.01406	-.00356	-.00214	-.00020	.00009	-.00083	-.00038

DATE 16 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) OFB 34-0 (BCFM) (WE) (VR)

(R92043) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XREF = 1081.3900 IN.
 LREF = 481.6480 IN. YREF = .0000 IN.
 BREF = 936.7000 IN. ZREF = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AILRON = -.670 BDPLAP = -11.700
 SPDRK = 25.550 RUDDER = -20.000
 CONFIG = 1.000

RUN NO. 268/ 0 RWL = 6.62 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.198	-10.480	1.15906	-.09181	.13098	.04415	.01207	.13255	.06112	1.01770	.56208
1.198	-8.470	1.16242	-.09112	.09350	.04139	.00657	.13716	.06102	1.02261	.56953
1.198	-6.360	1.16369	-.09110	.05416	.03930	.00088	.14363	.06279	1.02123	.57601
1.198	-4.280	1.16094	-.08882	.01609	.03692	-.00383	.14952	.06475	1.01653	.58032
1.196	-2.150	1.14839	-.08109	-.01884	.03310	-.00687	.14942	.06377	1.00505	.57522
1.198	-.040	1.14427	-.07961	-.04876	.02825	-.01020	.14785	.06152	1.00191	.57218
1.198	2.050	1.14309	-.07637	-.07643	.02223	-.01364	.14962	.06672	1.00014	.57336
1.198	4.150	1.13956	-.07949	-.10066	.01487	-.01776	.14736	.06593	.99788	.56983
1.198	6.260	1.14093	-.08072	-.12843	.00778	-.02090	.14452	.06377	1.00024	.56767
1.198	8.360	1.12886	-.07590	-.15737	.00018	-.02571	.14020	.06152	.99072	.55884
1.198	10.390	1.11316	-.06946	-.19033	-.00509	-.02884	.14020	.06201	.97650	.55256
GRADIENT		-.00229	.00102	-.01383	-.00261	-.00164	-.00020	.00025	-.00291	-.00109

RUN NO. 79/ 0 RWL = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.160	.60211	-.03517	.13333	.01650	.01805	.07927	.01913	.53431	.28884
2.990	-8.190	.60142	-.03237	.10292	.01595	.01354	.08094	.01913	.53294	.29011
2.990	-6.150	.59789	-.02808	.07519	.01483	.00912	.08202	.01903	.52931	.28992
2.990	-4.120	.59612	-.02288	.04248	.01487	.00392	.08457	.01864	.52676	.29159
2.990	-2.060	.59112	-.01688	.01354	.01404	-.00098	.08899	.01854	.52037	.29355
2.990	-.020	.59563	-.01591	-.00755	.00975	-.00412	.08781	.01776	.52038	.29266
2.990	2.020	.58945	-.01728	-.02777	.00458	-.00667	.08673	.01785	.51969	.29119
2.990	4.060	.58798	-.01673	-.05161	.00203	-.01050	.08624	.01825	.51852	.29031
2.990	6.090	.58641	-.01723	-.07780	-.00044	-.01413	.08693	.01874	.51685	.29031
2.990	8.150	.58239	-.01817	-.10714	-.00274	-.01815	.08889	.01894	.51243	.29070
2.990	10.100	.57866	-.01804	-.13451	-.00493	-.02168	.08977	.01913	.50861	.29011
GRADIENT		-.00088	.00057	-.01123	-.00172	-.00169	.00007	-.00007	-.00086	-.00024

NSFC 581(0449) ORB 34-0 (BCPH) (NE) (NR)

(R92043) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 S4. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 20.000 ELEVTR = 4.160
 AIRCON = -.670 BCLAP = -11.700
 SPDRK = 25.550 RUDDER = -20.000
 CONFIC = 1.000

PARAMETRIC DATA

RUN NO. 80/ 0 RWL = 4.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
4.99	-10.020	.49850	-.02367	.10988	.01454	.01599	.06866	.00569	.44219	.24037
4.99	-8.090	.50243	-.02302	.08879	.01211	.01354	.06868	.00579	.44621	.24076
4.99	-6.070	.50272	-.02176	.06632	.01006	.01020	.06819	.00589	.44670	.24047
4.99	-4.070	.49595	-.02003	.04454	.00831	.00648	.06799	.00589	.44042	.23792
4.99	-2.030	.49605	-.01432	.02139	.00675	.00216	.07005	.00579	.43983	.23988
4.99	-.010	.49379	-.01175	.00353	.00405	-.00069	.07074	.00579	.43748	.23978
4.99	2.010	.49399	-.01339	-.01442	.00018	-.00334	.06907	.00569	.43826	.23821
4.99	4.030	.48957	-.01394	-.03493	-.00264	-.00667	.06866	.00559	.43385	.23713
4.99	6.030	.49212	-.00984	-.05739	-.00371	-.01050	.07231	.00579	.43532	.24057
4.99	8.070	.48418	-.00813	-.08114	-.00528	-.01403	.07476	.00579	.42758	.24008
4.99	10.000	.48123	-.00711	-.10360	-.00732	-.01756	.07623	.00579	.42384	.24037
4.99	GRADIENT	-.00073	.00065	-.00962	-.00141	-.00157	.00012	-.00003	-.00075	-.00016



DATE 16 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) OFB 34-0 (BCPN) (WE) (WR)

(R92044) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1061.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 30.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = -20.000
 CONF16 = 1.000

RUN NO. 84/ 0 RWL = 4.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.140	1.00409	-.02016	.11734	.02323	.02335	.07653	.01933	.82109	.58984
2.990	-8.190	1.00828	-.04773	.09036	.02154	.01746	.07721	.01933	.82079	.59063
2.990	-6.190	1.01064	-.04770	.06573	.01849	.01187	.07702	.01923	.82295	.59161
2.990	-4.120	1.01260	-.04679	.04072	.01485	.00638	.07653	.01894	.82482	.59239
2.990	-2.060	1.01319	-.04572	.01874	.01065	.00177	.07692	.01835	.82511	.59298
2.990	-.010	1.01015	-.04461	.00167	.00433	-.00167	.07633	.01815	.82285	.59082
2.990	2.030	1.01015	-.04442	-.01452	-.00296	-.00441	.07466	.01825	.82374	.58945
2.990	4.070	1.00563	-.04304	-.03453	-.00715	-.00912	.07437	.01864	.82001	.58680
2.990	6.090	1.00053	-.04215	-.06024	-.00982	-.01491	.07594	.01884	.81491	.58543
2.990	8.160	.99445	-.04138	-.08487	-.01306	-.02021	.07682	.01894	.80941	.58288
2.990	10.100	.98886	-.03982	-.11057	-.01523	-.02551	.07918	.01894	.80343	.58199
GRADIENT		-.00083	-.00043	-.00898	-.00282	-.00182	-.00032	-.00003	-.00054	-.00072

RUN NO. 85/ 0 RWL = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.010	.90576	-.04212	.10105	.01604	.02149	.06465	.00530	.74437	.51999
4.959	-8.090	.90723	-.03745	.08124	.01381	.01766	.06475	.00549	.74564	.52087
4.959	-6.070	.90890	-.03704	.06328	.01053	.01374	.06348	.00540	.74770	.52058
4.959	-4.070	.90959	-.03549	.04415	.00733	.00952	.06377	.00540	.74770	.52097
4.959	-2.070	.91115	-.03410	.02561	.00423	.00510	.06250	.00540	.75006	.52097
4.959	.000	.90792	-.03435	.00785	.00095	.00039	.06387	.00540	.74672	.52048
4.959	2.010	.90674	-.03202	-.01001	-.00224	-.00343	.06495	.00540	.74505	.52077
4.959	4.030	.90115	-.03136	-.02786	-.00612	-.00765	.06583	.00540	.73995	.51861
4.959	6.030	.90115	-.02942	-.04768	-.00863	-.01256	.06740	.00540	.73907	.51999
4.959	8.070	.89291	-.02733	-.06672	-.01085	-.01697	.06711	.00549	.73210	.51547
4.959	9.990	.88015	-.02579	-.08722	-.01337	-.02041	.07142	.00559	.71905	.51253
GRADIENT		-.00100	-.00048	-.00888	-.00165	-.00212	-.00032	-.00000	-.00101	-.00024

MSFC 581(OA49) ORB 34-0 (BCFN) (WE) (VR)

(R92046) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = -11.700
 SPDRK = .000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 207/ 0 RWL = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.597	.050	-.05063	.02850	-.00363	.00262	.00099	.00020	.02629	-.05063	.05013
.597	2.030	.04150	.02697	-.00186	.00195	.00020	.04915	.02590	.03973	.05063
.597	4.130	.14079	.02633	-.00157	.00234	-.00078	.04484	.02610	.13716	.05484
.597	6.230	.25205	.02404	.00000	.00196	-.00020	.03718	.02698	.24655	.06436
.597	8.330	.36016	.02084	.00108	.00109	-.00098	.02865	.02698	.35222	.08055
.597	10.430	.47191	.01459	.00324	-.00086	-.00216	.02168	.02727	.46024	.10684
.597	12.530	.58052	.01024	.00491	-.00025	-.00167	.02296	.02943	.56168	.14834
.597	14.630	.70257	.00280	.00392	-.00052	-.00285	.02394	.03189	.67373	.20064
.597	16.750	.83777	-.00732	.00177	.00100	-.00226	.02247	.03512	.79578	.26303
.597	18.870	.98336	-.01941	.00039	.00138	-.00167	.01933	.03807	.92420	.33642
.597	20.890	1.10482	-.02424	.00049	.00079	.00053	.01599	.04160	1.02653	.40902
GRADIENT		.04692	-.00053	.00050	-.00007	-.00034	-.00133	-.00005	.04603	.00116

RUN NO. 208/ 0 RWL = 6.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.894	.020	-.07192	.04827	-.00432	.00252	.00128	.06034	.02414	-.07201	.06024
.894	2.100	.04101	.04350	-.00392	.00281	.00000	.06014	.02384	.03875	.06161
.894	4.270	.15776	.03540	-.00687	.00397	.00177	.05838	.02384	.15305	.06995
.894	6.440	.27618	.02491	-.00520	.00290	.00059	.06230	.02463	.26745	.09291
.894	8.610	.38960	.01454	-.00461	.00281	.00098	.06446	.02698	.37557	.12205
.894	10.780	.49448	.00345	-.00304	.00223	.00137	.06739	.03051	.47309	.15914
.894	12.920	.62516	-.01729	-.00491	.00212	.00206	.07231	.03444	.59308	.21025
.894	15.120	.74623	-.02658	-.00589	.00270	.00029	.07447	.03905	.70100	.26657
.894	17.280	.85248	-.02682	-.00226	.00185	-.00020	.07741	.04287	.79597	.32720
.894	19.440	.93755	-.01898	-.00412	.00232	-.00059	.08006	.04935	.85739	.38764
.894	21.460	.99651	.00566	-.00059	.00107	-.00255	.08447	.05700	.89644	.44326
GRADIENT		.05404	-.00303	-.00061	.00034	.00012	-.00046	-.00007	.05295	.00230

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) ORB 34-0 (BCFN)(WE) (NR)

(R92046) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
LREF = 481.6480 IN.
BREF = 93.7000 IN.
SCALE = .5540

YMRP = 1081.3900 IN.
YMRP = .0000 IN.
ZMRP = .0000 IN.

PARAMETRIC DATA

BETA = .000
ALRON = -.670
SPDRK = .000
CONF16 = 1.000
ELE-TR = 4.160
BDPLAP = -11.700
PUDDER = .000

RUN NO. 209/ 0 RVL = 6.63 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CR	CAP	CAB	CL	CD
1.198	.090	.01030	.01390	-.00226	.00292	-.00324	.13196	.04464	.01030	.13206
1.198	2.210	.13775	-.01192	-.00216	.00322	-.00304	.13196	.04258	.13255	.13618
1.198	4.430	.26549	-.03619	-.00216	.00312	-.00235	.12764	.04150	.25479	.14775
1.198	6.620	.39136	-.05575	-.00245	.00332	-.00108	.12559	.04219	.37429	.16973
1.198	8.870	.52185	-.07301	-.00265	.00292	.00020	.12234	.04278	.49664	.20142
1.198	11.100	.64822	-.08501	-.00265	.00263	.00010	.12185	.04582	.61260	.24439
1.198	13.330	.77429	-.09770	-.00210	.00186	.00029	.12392	.05200	.72484	.29875
1.198	15.590	.89791	-.11120	-.00029	.00216	.00010	.12794	.05602	.83070	.36399
1.198	17.760	1.01692	-.12245	-.00098	.00195	-.00049	.13000	.06181	.92872	.43414
1.198	19.950	1.11415	-.12496	-.00198	.00186	-.00029	.13059	.06416	1.00279	.50262
1.198	22.030	1.19666	-.11746	-.00432	.00252	.00059	.13059	.06789	1.06028	.56893
GRADIENT		.05874	-.01154	.00002	.00004	.00020	-.00100	-.00072	.05632	.00363

DATE 13 JUL 74

TABULATED SOURCE DATA - 0449

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(R92047) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT YMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDPLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 211/ 0 RWL = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.596	.090	-.08173	.06466	-.00226	.00136	.00147	.08300	.03198	-.08173	.08300
.596	2.040	.01540	.06253	-.00245	.00135	.00108	.08153	.03130	.01246	.08202
.596	4.190	.11508	.06228	-.00363	.00174	.00099	.07731	.03100	.10910	.08545
.596	6.230	.22575	.05788	-.00245	.00106	.00029	.06878	.03130	.21192	.09232
.596	8.320	.32965	.05478	-.00088	.00058	.00088	.06014	.03179	.31749	.10724
.596	10.430	.44385	.05109	.00069	-.00098	-.00078	.05327	.03208	.42688	.13274
.596	12.520	.55158	.04488	.00137	-.00107	-.00106	.05278	.03316	.52695	.17120
.596	14.630	.67157	.03858	.00000	.00000	-.00177	.05396	.03483	.63615	.22193
.596	16.750	.80794	.02944	-.00402	.00105	-.00118	.05229	.03807	.75859	.28285
.596	18.870	.94500	.01731	-.00216	.00116	.00285	.04886	.04032	.87839	.35192
.596	20.880	1.08059	.00923	-.00540	.00172	.00599	.04435	.04327	.99376	.42659
.596	GRADIENT	.04799	-.00057	-.00034	.00009	-.00022	-.00139	-.00324	.04654	.00061

RUN NO. 210/ 0 RWL = 6.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.894	.010	-.09978	.08477	-.00334	.00164	.00245	.09016	.02943	-.09978	.09016
.894	2.100	.01501	.07974	-.00324	.00174	.00076	.08948	.02875	.01177	.08997
.894	4.280	.13402	.07187	-.00471	.00281	.00216	.08663	.02953	.12715	.09634
.894	6.480	.28214	.06051	-.00324	.00213	.00157	.08879	.03022	.24057	.11656
.894	8.610	.35742	.05087	-.00255	.00175	.00098	.08987	.03130	.33995	.14246
.894	10.780	.48064	.03485	-.00363	.00125	.00006	.09356	.03404	.45425	.18366
.894	12.980	.60112	.02082	-.00441	.00175	.00285	.09693	.03709	.56414	.22919
.894	15.130	.72543	.00878	-.00314	.00135	.00147	.09997	.04111	.67412	.28589
.894	17.310	.83512	.00318	-.00010	.00088	.00049	.10292	.04523	.76664	.34692
.894	19.470	.93068	.01360	-.00059	.00107	.00029	.10625	.05082	.84199	.41050
.894	21.470	.97934	.03894	.00010	.00039	-.00098	.10596	.05641	.87260	.45720
.894	GRADIENT	.05475	-.00003	-.00032	.00027	-.00006	-.00083	.00003	.05314	.00146

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 561(0449) ORB 34-0 (BCFM) (UE) (WE)

(R92048) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = -11.700
 SPDRK = 85.000 RUDDER = .000
 CONF16 = 1.000

RUN NO. 212/ 0 RV/L = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.897	.000	-.10576	.09628	-.00422	.00261	.00147	.10988	.03973	-.10586	.10979
.897	2.040	-.01089	.09441	-.00206	.00224	.00078	.10733	.03954	-.01472	.10694
.897	4.130	.08742	.09144	-.00226	.00224	-.00010	.10262	.03934	.07976	.10871
.897	6.230	.19436	.08928	-.00157	.00234	.00020	.09468	.03885	.18288	.11528
.897	8.330	.30934	.08386	-.00049	.00127	.00039	.08604	.03944	.29365	.13000
.897	10.430	.41511	.07984	.00108	.00001	-.00078	.07849	.03924	.39401	.15237
.897	12.520	.52430	.07510	.00373	-.00017	-.00108	.07731	.04130	.49507	.18926
.897	14.630	.64783	.06663	.00553	.00032	-.00137	.07672	.04307	.60740	.23792
.897	16.750	.78371	.05730	.00717	.00099	-.00147	.07584	.04435	.72857	.29855
.897	18.870	.92479	.04639	-.00078	.00156	.00265	.07290	.04798	.85150	.36821
.897	20.880	1.06822	.04053	-.00216	.00136	.00540	.06927	.05063	.95462	.43846
GRADIENT		.04735	-.00119	.00048	-.00009	-.00039	-.00178	-.00010	.04549	-.00026

RUN NO. 213/ 0 RV/L = 6.21 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.897	.000	-.14305	.13118	-.00530	.00300	.00216	.12215	.03532	-.14305	.12215
.897	2.090	-.02943	.12536	-.00628	.00328	.00069	.12107	.03493	-.03385	.11989
.897	4.280	.09860	.11570	-.00638	.00407	.00196	.11901	.03385	.08948	.12607
.897	6.430	.21192	.10610	-.00697	.00347	.00167	.11881	.03453	.19720	.14187
.897	8.610	.32210	.09499	-.00540	.00290	.00108	.12048	.03463	.30032	.16738
.897	10.780	.44375	.07633	-.00451	.00232	.00186	.12588	.03895	.41236	.20672
.897	12.950	.56610	.06010	-.00638	.00289	.00235	.12725	.04081	.52313	.25087
.897	15.130	.68923	.05192	-.00412	.00252	.00098	.12754	.04317	.63193	.30306
.897	17.320	.80225	.04859	-.00353	.00233	.00029	.13216	.04759	.72651	.36507
.897	19.470	.89487	.05646	-.00392	.00183	.00020	.13304	.05278	.79931	.42384
.897	21.480	.95609	.07465	-.00167	.00087	-.00118	.13265	.06034	.84101	.47368
GRADIENT		.05648	-.00362	-.00025	.00025	-.00004	-.00074	-.00035	.05434	.00093

SFC 581(0449) ORB 34-0 (8CFM) (WE) (VR)

(R92048) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 401.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BCFAP = -11.700
 SPDRK = 85.000 RUDDER = .000
 CONF1 = 1.000

RUN NO. 214/ 0 RWL = 6.63 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.195	.160	-.03395	.10082	.00186	.00168	-.00196	.19141	.04680	-.03453	.19132
1.195	2.270	.09468	.07182	.00039	.00206	-.00196	.19092	.04758	.08702	.19455
1.195	4.970	.22860	.04388	.00010	.00226	-.00157	.18788	.04768	.21310	.20535
1.195	6.680	.35565	.02038	.00000	.00235	-.00010	.18298	.04621	.33191	.22310
1.195	8.920	.48643	.00177	.00000	.00216	.00157	.17866	.04788	.45278	.25205
1.195	11.150	.61143	-.01142	-.00029	.00186	.00128	.17572	.04876	.56590	.29070
1.195	13.370	.73985	-.02745	.00108	.00128	.00088	.17454	.05161	.67942	.34093
1.195	15.590	.85631	-.04030	.00078	.00138	.00108	.17336	.05416	.77812	.39715
1.195	17.800	.97512	-.05165	.00029	.00147	.00020	.17297	.05749	.87554	.46289
1.195	19.990	1.07726	-.05514	-.00098	.00195	.00039	.17111	.06044	.95383	.52911
1.195	22.000	1.14662	-.04224	-.00108	.00146	.00049	.16846	.06367	.99936	.58680
	GRADIENT	.06049	-.01311	-.00040	.00013	.00009	-.00082	.00020	.05705	.00325

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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NSFC 501(0A49) ORB 34-0 (BCFN) (VE) (VR)

(R92049) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 40. FT ZMRP = 1001.3900 IN.
 LEF = 401.6400 IN. ZMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.100
 ATLORN = -.670 BDPLAP = -11.700
 SPDRK = .000 RUDDER = -10.000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 223/ 0 RWL = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.598	.030	-.03219	.03106	-.03689	.01044	-.00873	.03553	.02649	-.05219	.05543
.598	2.040	.04474	.02954	-.03620	.01776	-.00922	.03386	.02590	.04278	.05563
.598	4.130	.14177	.02944	-.03903	.01767	-.01001	.04964	.02767	.13785	.05975
.598	6.230	.24793	.02659	-.03542	.01757	-.00981	.04160	.02855	.24194	.06829
.598	8.330	.35693	.02185	-.03189	.01583	-.00971	.03287	.02747	.34839	.08418
.598	10.430	.47093	.01777	-.03022	.01456	-.01079	.02541	.02845	.45847	.11228
.598	12.530	.58623	.01294	-.03041	.01486	-.01079	.02541	.02845	.56060	.15197
.598	14.630	.69825	.00535	-.03149	.01593	-.01226	.02718	.03238	.66872	.20270
.598	16.760	.84002	-.00516	-.03287	.01641	-.01069	.02453	.03522	.79725	.26578
.598	18.880	.98552	-.01763	-.03718	.01745	-.00697	.02178	.03924	.92548	.33956
.598	20.900	1.10718	-.02343	-.04042	.01831	-.00441	.01844	.04268	1.02771	.41226
GRADIENT		.04730	-.00040	.00746	-.00019	-.00031	-.00144	.00029	.04635	.00106

RUN NO. 222/ 0 RWL = 6.23 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.897	.000	-.07398	.05134	-.02590	.01303	-.00471	.06426	.02610	-.07398	.06426
.897	2.100	.03973	.04822	-.02639	.01392	-.00618	.06515	.02590	.03738	.06652
.897	4.300	.16365	.03869	-.02855	.01478	-.00422	.06387	.02551	.13845	.07604
.897	6.470	.28835	.02240	-.02777	.01351	-.00481	.07044	.02629	.27854	.10253
.897	8.630	.40333	.01021	-.02561	.01313	-.00549	.07319	.02914	.38783	.13294
.897	10.790	.51057	.00080	-.02423	.01256	-.00432	.07496	.03238	.48741	.16924
.897	12.940	.62143	-.00990	-.02539	.01303	-.00432	.07594	.03610	.58857	.21319
.897	15.120	.74221	-.02036	-.02669	.01361	-.00569	.07888	.04052	.69590	.26990
.897	17.290	.84876	-.02185	-.02912	.01294	-.00589	.08173	.04474	.78606	.33034
.897	19.460	.94756	-.01534	-.02669	.01293	-.00540	.08565	.05121	.86436	.39637
.897	21.470	.99994	-.00726	-.02884	.01271	-.00549	.08810	.05632	.89820	.44797
GRADIENT		.05327	-.00295	-.00062	.00041	.00012	-.00010	-.00014	.05406	.00275

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

(R92049) (22 MAY 74)

MSFC 501(0449) ORB 34-0 (BCFM) (WE) (VR)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6400 IN.
 BREF = 956.7500 IN.
 SCALE = .0040

YMRP = 1081.3900 IN.
 YMRP = .0000 IN.
 ZMRP = .0000 IN.

PARAMETRIC DATA

BETA = .000
 ALLRON = -.670
 SPOBCK = .000
 CONFIG = 1.000

CLEVTR = 4.160
 BDFLAP = -11.700
 RUDDER = -10.000

RUN NO. 221/ 0 RWL = 6.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	QBL	CAP	CAB	CL	CD
1.198	.090	.00863	.01861	-.02090	.01376	-.00952	.13755	.04992	.00863	.13765
1.198	2.220	.13726	-.02006	-.02119	.01376	-.00922	.13696	.04543	.13186	.14216
1.198	4.450	.26490	-.03252	-.02051	.01308	-.00834	.13553	.04405	.25371	.15164
1.198	6.630	.39205	-.03293	-.02041	.01288	-.00677	.13068	.04415	.37429	.17513
1.198	8.830	.52087	-.06944	-.01903	.01221	-.00520	.12764	.04532	.49487	.20652
1.198	11.100	.64469	-.08101	-.01913	.01181	-.00471	.12686	.04758	.60809	.24861
1.198	13.350	.77311	-.09462	-.01897	.01075	-.00491	.12823	.05141	.72268	.30306
1.198	15.550	.89526	-.10728	-.01638	.01085	-.00481	.12911	.05651	.82786	.36458
1.198	17.700	1.01446	-.11785	-.01638	.01076	-.00559	.13235	.06122	.92567	.43561
1.198	19.940	1.11130	-.12085	-.01707	.01055	-.00520	.13176	.06318	.99965	.50292
1.198	22.030	1.19401	-.11266	-.01992	.01141	-.00383	.13068	.06642	1.05773	.56904
GRADIENT		.03899	-.01178	.00009	-.00016	.00027	-.00093	-.00043	.05646	.00369

DATE 10 JUL 74

TABULATED SOURCE DATA - 0449

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N67C 581(0449) CRB 34-0 (BCFM) (NE) (NR)

(R92050) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6485 IN.
 BREF = 936.7500 IN.
 SCALE = .0040

BETA = .000
 ELEVTR = 4.160
 ATLEON = -.670
 BCLAP = -11.700
 SPOBRK = 55.000
 RUDDER = -10.000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 218/ 0 RNL = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CEL	CAP	CAB	CL	CD
.598	.050	-.07672	.06638	-.03208	.01583	-.00559	.08594	.03306	-.07682	.08594
.598	2.050	.02257	.06584	-.03002	.01486	-.05638	.08516	.03297	.01952	.08594
.598	4.150	.11822	.06417	-.02796	.01459	-.05677	.07976	.03257	.11214	.08810
.598	6.250	.22330	.06169	-.02727	.01439	-.05628	.07142	.03247	.21418	.09527
.598	8.350	.32926	.05777	-.02580	.01323	-.05648	.06269	.03247	.31660	.10979
.598	10.450	.44101	.05356	-.02463	.01167	-.05746	.05543	.03306	.42364	.13441
.598	12.550	.55717	.04807	-.02207	.01169	-.05746	.05632	.03414	.53166	.17601
.598	14.640	.67225	.04023	-.02453	.01255	-.05755	.05671	.03758	.63605	.22477
.598	16.750	.80775	.03166	-.02541	.01333	-.05736	.05426	.04072	.75781	.28491
.598	18.870	.95266	.01801	-.02777	.01380	-.05363	.05121	.04405	.88476	.35673
.598	20.990	1.07627	.01167	-.03179	.01465	-.05128	.04650	.04739	.98896	.42727
GRADIENT		.04777	-.00054	.00101	-.00030	-.00029	-.00152	-.00012	.04630	.00053

RUN NO. 219/ 0 RNL = 6.25 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CEL	CAP	CAB	CL	CD
.895	.010	-.10105	.06969	-.03371	.01746	-.00569	.09448	.03198	-.10105	.09448
.895	2.100	.01305	.06596	-.03483	.01698	-.00697	.09330	.03159	.00952	.09379
.895	4.300	.13382	.07661	-.03512	.01776	-.00530	.09065	.03041	.12666	.10347
.895	6.440	.24410	.06500	-.03306	.01680	-.00559	.09262	.03012	.23213	.11940
.895	8.620	.36841	.04844	-.03512	.01525	-.00540	.09634	.03198	.34976	.15060
.895	10.770	.47356	.03938	-.02904	.01428	-.00570	.09782	.03493	.44689	.18464
.895	12.950	.60368	.02105	-.03120	.01475	-.00392	.10096	.03846	.56571	.23370
.895	15.150	.72053	.01276	-.03551	.01476	-.00510	.10233	.04287	.66882	.28697
.895	17.320	.83993	.00519	-.02992	.01457	-.00569	.10704	.04650	.76987	.35232
.895	19.460	.92381	.01765	-.03071	.01456	-.00589	.10802	.05259	.83502	.40971
.895	21.480	.97846	.03874	-.03022	.01349	-.00697	.11038	.05818	.87514	.46083
GRADIENT		.05475	-.00305	.00020	.00007	-.00010	-.00089	-.00037	.05308	.00141

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) CFB 34-0 (BCFM) (NE) (NR)

(R92050) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETER DATA

BETA = .000 G.EVTR = 4.160
AILRON = -.670 B:FLAP = -11.700
SPDRK = 95.000 F:UDDER = -10.000
CONFIG = 1.000

RUN NO. 220/ 0 RM/L = 6.66 GRADIENT INTERVAL = -.5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.197	.140	-.00893	.05721	-.02335	.01432	-.00961	.16630	.04925	-.00932	.16630
1.197	2.240	.11970	.02899	-.02374	.01462	-.00942	.16531	.04866	.11312	.17003
1.197	4.480	.25165	.00315	-.02394	.01481	-.00893	.16277	.04631	.23811	.18190
1.197	6.670	.37635	-.01865	-.02364	.01442	-.00746	.15806	.04543	.35536	.20075
1.197	8.920	.50547	-.03632	-.02345	.01403	-.00569	.15452	.04650	.47544	.23085
1.197	11.120	.63134	-.04805	-.02345	.01403	-.00579	.15197	.04876	.59014	.27098
1.197	13.350	.75683	-.06345	-.02149	.01326	-.00549	.15070	.05092	.70149	.32141
1.197	15.570	.88064	-.07714	-.02178	.01336	-.00608	.15158	.05641	.80765	.38244
1.197	17.780	.99327	-.08888	-.02237	.01355	-.00657	.15129	.05857	.89958	.44738
1.197	19.970	1.09384	-.09134	-.02355	.01423	-.00667	.14972	.06083	.97689	.51439
1.197	22.040	1.17203	-.08400	-.03022	.01623	-.00820	.14658	.06407	1.03124	.57581
	GRADIENT	.06003	-.01245	-.00014	.00007	.00016	-.00082	-.00068	.05700	.00361

REFERENCE DATA PARAMETRIC DATA

SREF = 2741.8000 SQ. FT YMRP = 1081.3900 IN. BETA = .000 ELVTR = 4.160
 LREF = 481.6480 IN. YMRP = .0000 IN. AIRLON = -.670 BDFLAP = -11.700
 BREF = 936.7950 IN. ZMRP = .0000 IN. SPDRK = 85.000 RUDDER = -10.000
 SCALE = .0040 CONF16 = 1.000

RUN NO. 217/ 0 RNVL = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.97	.050	-.09988	.09135	-.02600	.01225	-.00275	.10822	.04042	-.09997	.10812
.97	2.040	-.00177	.08982	-.02423	.01177	-.00314	.10586	.03983	-.00549	.10567
.97	4.130	.09566	.08876	-.02502	.01157	-.00412	.10096	.03954	.08810	.10763
.97	6.230	.20358	.08623	-.02394	.01138	-.00353	.09301	.03964	.19220	.11459
.97	8.330	.31758	.08148	-.02158	.01012	-.00285	.08428	.03964	.30198	.12941
.97	10.430	.42629	.07809	-.01766	.00839	-.00412	.07702	.04003	.40530	.15295
.97	12.530	.53078	.07231	-.01874	.00838	-.00451	.07662	.04130	.50144	.18994
.97	14.640	.65401	.06460	-.01746	.00947	-.00481	.07692	.04327	.61329	.23978
.97	16.750	.79009	.05372	-.01972	.00926	-.00481	.07398	.04611	.73524	.29855
.97	18.880	.93450	.04345	-.02158	.01012	-.00509	.07142	.04945	.86102	.36998
.97	20.890	1.06038	.03676	-.02482	.01020	.00235	.06838	.05278	.96619	.44209
GRADIENT		.04791	-.00063	.00024	-.00017	-.00034	-.00178	-.00022	.04609	-.00011

RUN NO. 216/ 0 RNVL = 6.23 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.895	.000	-.14010	.12920	-.02875	.01311	-.00196	.12215	.03679	-.14010	.12205
.895	2.090	-.02767	.12422	-.02767	.01302	-.00304	.12038	.03620	-.03198	.11930
.895	4.270	.09507	.11322	-.02727	.01322	-.00167	.11656	.03571	.08604	.12333
.895	6.450	.21673	.10240	-.02698	.01243	-.00157	.11911	.03522	.20191	.14275
.895	8.620	.33711	.08740	-.02394	.01109	-.00177	.12274	.03620	.31494	.17199
.895	10.780	.44964	.07459	-.02257	.01031	-.00137	.12391	.03826	.41844	.20593
.895	12.950	.57042	.06017	-.02414	.01069	-.00069	.12382	.04042	.52803	.24861
.895	15.140	.69502	.04775	-.02217	.01071	-.00177	.12725	.04444	.63762	.30444
.895	17.290	.79499	.04944	-.02090	.01023	-.00216	.12784	.04807	.72102	.35850
.895	19.480	.89742	.05185	-.02060	.01023	-.00226	.13235	.05298	.80186	.42413
.895	21.490	.95795	.07197	-.01972	.00906	-.00373	.13196	.05946	.84297	.47378
GRADIENT		.05558	-.00375	.00034	.00003	.00007	-.00131	-.00025	.05297	.00031

MSFC 581(OA49) ORB 34-0 (BCFM) (WE) (VR)

(R92031) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8555 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDORN = 85.000 RUDDER = -10.000
 CONF16 = 1.000

RUN NO. 215/ 0 RV/L = 6.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.198	.160	-.03316	.09735	-.00991	.00738	-.00481	.19004	.04700	-.03365	.18994
1.198	2.270	.09791	.06791	-.01069	.00766	-.00481	.18916	.04749	.09036	.19289
1.198	4.500	.22958	.03887	-.01177	.00805	-.00432	.18513	.04660	.21437	.20260
1.198	6.670	.35663	.01527	-.01187	.00805	-.00304	.18062	.04680	.33318	.22085
1.198	8.920	.48810	-.00314	-.01177	.00805	-.00167	.17719	.04739	.45465	.25077
1.198	11.140	.61192	-.01586	-.01148	.00746	-.00147	.17444	.04906	.56659	.28943
1.198	13.370	.74044	-.03073	-.01030	.00699	-.00147	.17405	.05180	.68001	.34064
1.198	15.580	.85916	-.04393	-.01030	.00688	-.00147	.17375	.05465	.78086	.39823
1.198	17.790	.97758	-.05528	-.01187	.00765	-.00235	.17267	.05808	.87799	.46328
1.198	19.980	1.07029	-.05526	-.01462	.00851	-.00147	.16934	.06053	.94795	.52499
1.198	22.050	1.15015	-.04663	-.01737	.00898	-.00108	.16679	.06485	1.00328	.58660
	GRADIENT	.06053	-.01347	-.00045	.00015	.00011	-.00114	-.00009	.05713	.00293



DATE 16 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 561 (0A49) CRB 34-0 (BCFM) (NR)

(R92032) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .5040

PARAMETRIC DATA

BETA = .050 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDGRK = .000 RUDDER = -20.000
 CONFIC = 1.000

RUN NO. 224/ 0 RWL = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.597	.040	-.05113	.03866	-.04896	.02462	-.01187	.06416	.02884	-.05023	.06407
.597	2.040	.04258	.03850	-.04974	.02490	-.01226	.06250	.02904	.04032	.06397
.597	4.140	.14314	.03681	-.04906	.02452	-.01344	.05759	.02914	.13863	.06779
.597	6.230	.24871	.03386	-.04915	.02461	-.01275	.05004	.02973	.24174	.07672
.597	8.330	.35536	.03005	-.04788	.02364	-.01305	.04150	.02983	.34564	.09262
.597	10.430	.46995	.02482	-.04641	.02189	-.01452	.03424	.03032	.45592	.11881
.597	12.530	.57669	.02014	-.04758	.02257	-.01481	.03444	.03169	.55550	.15874
.597	14.640	.69933	.01329	-.04719	.02375	-.01580	.03630	.03522	.66745	.21202
.597	16.770	.84022	.00307	-.04768	.02414	-.01403	.03395	.03836	.79470	.27500
.597	18.890	.97993	-.01058	-.05170	.02469	-.01030	.03041	.03993	.91724	.34613
.597	20.900	1.10630	-.01348	-.05563	.02564	-.00775	.02718	.04425	1.02379	.42021
GRADIENT		.04715	-.00045	-.00002	-.00003	-.00038	-.00161	.00007	.04607	.00092

RUN NO. 225/ 0 RWL = 6.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.894	.030	-.07741	.06076	-.03993	.02086	-.00883	.07437	.02826	-.07741	.07427
.894	2.100	.03336	.05750	-.04032	.02596	-.01040	.07339	.02698	.03061	.07456
.894	4.280	.15570	.04775	-.04130	.02183	-.00824	.07290	.02826	.14982	.08438
.894	6.450	.26865	.03901	-.04297	.02162	-.00932	.07329	.02826	.25872	.10302
.894	8.620	.38901	.02362	-.03915	.02028	-.00942	.07918	.03090	.37272	.13667
.894	10.780	.49418	.01379	-.03983	.01988	-.00954	.06232	.03660	.42024	.17228
.894	12.940	.61506	.00025	-.04072	.02017	-.00765	.08350	.03660	.58082	.21869
.894	15.140	.74594	-.01488	-.04023	.02047	-.00873	.08722	.04189	.69717	.27913
.894	17.290	.84709	-.01298	-.03973	.01998	-.00883	.08869	.04503	.78243	.33662
.894	19.450	.93995	-.00327	-.04003	.01978	-.00863	.09144	.04925	.85582	.39931
.894	21.470	.99141	.01612	-.04287	.01947	-.00834	.09507	.05789	.88780	.45151
GRADIENT		.05486	-.00307	-.00002	.00023	.00015	-.00035	.00001	.05348	.00240

MSFC 581(0A49) CRB 34-0 (BCFM) (AE) (NR)

(R92032) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1531.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPOBRK = .000 RUDDER = -20.000
 CONFIG = 1.000

RUN NO. 226/ 0 RV/L = 6.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.197	.150	.00628	.02921	-.03326	.02033	-.01334	.14668	.04768	.00998	.14668
1.197	2.230	.13363	.00184	-.03257	.01975	-.01275	.14599	.04700	.12784	.15109
1.197	4.460	.26323	-.02375	-.03169	.01936	-.01187	.14216	.04670	.25136	.15228
1.197	6.680	.39136	-.04472	-.03100	.01868	-.01001	.13971	.04670	.37233	.18415
1.197	8.880	.51812	-.06169	-.03051	.01810	-.00805	.13667	.04690	.49085	.21506
1.197	11.110	.64213	-.07292	-.02943	.01752	-.00795	.13333	.04817	.62436	.25460
1.197	13.330	.76860	-.08667	-.02708	.01626	-.00795	.13441	.05229	.71680	.30807
1.197	15.550	.88829	-.10023	-.02747	.01655	-.00785	.13471	.05504	.81962	.36851
1.197	17.760	1.05622	-.11025	-.02688	.01616	-.00854	.13745	.06053	.91626	.43797
1.197	19.980	1.10865	-.11229	-.02708	.01606	-.00834	.13756	.06230	.99324	.50743
1.197	22.040	1.18596	-.10380	-.03002	.01692	-.00828	.13441	.06324	1.04880	.56963
	GRADIENT	.05893	-.01214	.00036	-.00022	.00034	-.00104	-.00022	.05827	.00359

MSFC 901(0A49) ORB 34-0 (BCFM) (WE) (VR)

(R92033) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1061.3900 IN.
 LREF = 481.6400 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDPRK = 55.000 RUDDER = -20.000
 CONFIG = 1.000

RUN NO. 229/ 0 RWL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.601	.030	-.08202	.07045	-.05789	.02817	-.01295	.09036	.03512	-.08202	.09036
.601	2.040	.01609	.06999	-.05632	.02779	-.01315	.08948	.03561	.01285	.08997
.601	4.130	.11361	.06710	-.05514	.02712	-.01354	.08388	.03483	.10724	.09183
.601	6.210	.21967	.06492	-.05318	.02615	-.01266	.07535	.03463	.21025	.09870
.601	8.330	.32710	.06132	-.05023	.02451	-.01266	.06862	.03385	.31395	.11332
.601	10.440	.44375	.05651	-.04670	.02297	-.01334	.05806	.03463	.42570	.13653
.601	12.530	.55177	.05078	-.04631	.02258	-.01364	.06063	.03601	.52538	.17895
.601	14.650	.67667	.04388	-.04749	.02394	-.01432	.06102	.03826	.63919	.23017
.601	16.760	.81226	.03338	-.04935	.02422	-.01354	.05720	.04219	.76124	.28903
.601	18.880	.95364	.01909	-.05259	.02498	-.00942	.05337	.04562	.88496	.35928
.601	20.910	1.08707	.01281	-.05484	.02535	-.00697	.04935	.04935	.99788	.43424
.601	GRADIENT	.04771	-.00082	.00067	-.00026	-.00014	-.00159	-.00007	.04615	.00036

RUN NO. 228/ 0 RWL = 6.23 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.896	.000	-.10802	.09451	-.06416	.03136	-.01324	.09997	.03434	-.10812	.09997
.896	2.100	.00677	.08986	-.06230	.03079	-.01413	.09909	.03287	.00314	.09929
.896	4.320	.13814	.07842	-.06348	.03117	-.01168	.09821	.03189	.13039	.10831
.896	6.460	.24724	.07039	-.06083	.02932	-.01197	.09684	.03198	.23478	.12401
.896	8.610	.35339	.05903	-.05769	.02817	-.01266	.09841	.03316	.33466	.15031
.896	10.780	.47446	.04249	-.05681	.02753	-.01168	.10380	.03650	.44670	.19073
.896	12.960	.60093	.02555	-.05936	.02796	-.01079	.10665	.03934	.56168	.23880
.896	15.130	.71759	.01880	-.05641	.02769	-.01187	.10625	.04356	.66441	.28972
.896	17.320	.82992	.01045	-.05779	.02798	-.01207	.11067	.04906	.75928	.35281
.896	19.450	.91743	.02355	-.05828	.02758	-.01236	.11087	.05327	.82805	.41020
.896	21.470	.97601	.04305	-.05838	.02729	-.01324	.11234	.05965	.86710	.46191
.896	GRADIENT	.05750	-.00374	.00015	-.00004	.00037	-.00041	-.00057	.05523	.00195

NSFC 581(0449) OFB 34-0 (BCFM) (NE) (VR)

(R92033) (22 MAY 74)

REFERENCE DATA

SHEF = 2741.6000 SQ. FT YMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 ATTORN = -.670 BDPLAP = -11.700
 SPD8RK = 55.000 RUDDER = -20.000
 CONF16 = 1.000

RUN NO. 227/ 0 RV/L = 6.64 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CaP	CAB	CL	CD
1.199	.110	-.01393	.05974	-.04493	.02602	-.01648	.16797	.04876	-.01423	.16787
1.199	2.240	.11489	.03288	-.04425	.02583	-.01569	.16738	.04866	.10831	.17179
1.199	4.480	.24851	.00726	-.04444	.02593	-.01590	.16591	.04807	.23468	.18484
1.199	6.680	.37468	-.01384	-.04366	.02525	-.01383	.16277	.04807	.35320	.20525
1.199	8.900	.50243	-.03183	-.04297	.02457	-.01187	.15914	.04886	.47172	.23498
1.199	11.130	.62781	-.04423	-.04229	.02398	-.01148	.15679	.04964	.58382	.27442
1.199	13.350	.75624	-.05872	-.04013	.02322	-.01187	.15590	.05357	.69573	.32641
1.199	15.570	.87446	-.07183	-.04062	.02331	-.01138	.15619	.05700	.80039	.38528
1.199	17.780	.99465	-.08209	-.04121	.02370	-.01236	.15796	.06122	.89889	.45425
1.199	19.960	1.09482	-.08562	-.04386	.02436	-.01236	.15580	.06328	.97581	.52018
1.199	22.050	1.16987	-.07678	-.04945	.02648	-.01011	.15452	.06721	1.02634	.58248
GRADIENT		.06005	-.01201	.00011	-.00002	.00022	-.00047	-.00016	.05695	.00390

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MSFC 561 (0449) ORB 34-0 (BCFM) (NE) (NR)

(R92034) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT YMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .5000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BCLAP = -11.700
 SPDRK = 85.000 RUDDER = -20.000
 CONFIC = 1.000

RUN NO. 230/ 0 RN/L = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.599	.030	-.10625	.09570	-.04801	.02101	-.00716	.11234	.04268	-.10625	.11224
.599	2.040	-.00873	.09484	-.04336	.02084	-.00716	.11136	.04219	-.01266	.11096
.599	4.150	.09124	.09256	-.04336	.02015	-.00785	.10645	.04209	.08330	.11283
.599	6.250	.19544	.09007	-.04248	.01927	-.00706	.09782	.04052	.18366	.11852
.599	8.350	.30277	.08685	-.03954	.01783	-.00736	.08918	.04101	.28658	.13206
.599	10.450	.41746	.08346	-.03669	.01618	-.00805	.08290	.04130	.39548	.15708
.599	12.550	.53009	.07645	-.03434	.01551	-.00814	.08094	.04317	.49987	.19406
.599	14.640	.65666	.06784	-.03200	.01669	-.00834	.08094	.04503	.61486	.24430
.599	16.760	.78459	.05789	-.03020	.01697	-.00844	.07780	.04719	.72877	.30581
.599	18.890	.93293	.04430	-.02875	.01734	-.00883	.07407	.05004	.85867	.37223
.599	20.900	1.06166	.03687	-.02640	.01781	-.00918	.07064	.05269	.96649	.44493
GRADIENT		.04793	-.00076	.00064	-.00021	-.00017	-.00144	-.00014	.04600	.00015

RUN NO. 231/ 0 RN/L = 6.24 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.899	.030	-.13471	.12929	-.05210	.02351	-.00569	.12872	.03846	-.13480	.12862
.899	2.090	-.02835	.12654	-.04856	.02276	-.00677	.12578	.03738	-.03287	.12460
.899	4.300	.09909	.11667	-.04994	.02323	-.00500	.12421	.03699	.08948	.13137
.899	6.450	.21094	.10801	-.04572	.02160	-.00491	.12264	.03777	.19573	.14550
.899	8.630	.33230	.09109	-.04199	.01967	-.00520	.12115	.03797	.30944	.17562
.899	10.780	.44071	.07880	-.04140	.01879	-.00500	.12066	.03993	.40912	.20721
.899	12.950	.56826	.06217	-.04150	.01899	-.00412	.12862	.04248	.52489	.25273
.899	15.160	.71160	.04405	-.04327	.02015	-.00510	.13510	.04582	.65146	.31660
.852	17.340	.82168	.03688	-.04072	.01899	-.00569	.13637	.04935	.74358	.37518
.899	19.470	.89850	.05700	-.03787	.01823	-.00569	.13480	.05406	.80215	.42668
.899	21.500	.95972	.07200	-.03640	.01687	-.00765	.13588	.06112	.84307	.47819
GRADIENT		.05479	-.00297	.00049	-.00006	.00017	-.00105	-.00034	.05256	.00067

MSFC 581 (OA49) OFB 34-0 (BCFW) (WE) (WR)

(R92054) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XREF = 1081.3900 IN.
LREF = 481.8480 IN. YREF = .0000 IN.
DREF = 936.7000 IN. ZREF = .0000 IN.
SCALE = .0000

BETA =	.000	ELEVTR =	4.160
ALFLON =	-.670	BDCLAP =	-11.700
SPDRK =	85.000	RUDDER =	-20.000
CONFIG =	1.000		

PARAMETRIC DATA

RUN NO. 232/0 RN/L = 6.65 GRADIENT INTERVAL = -5.00/ 5.00

RUN NO. 232/0 RN/L = 6.65 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.197	1.40	-0.03463	.10003	-.02620	.01499	-.00883	.19190	.04739	-.03512	.19181
1.197	2.270	.09703	.07147	-.02571	.01500	-.00854	.19200	.04768	.08928	.19573
1.197	4.500	.22909	.04360	.02512	.01480	-.00805	.18945	.04631	.21349	.20682
1.197	3.700	.35702	.02146	-.02325	.01394	-.00618	.18612	.04709	.33289	.22654
1.197	8.920	.48643	.00274	.02364	.01354	-.00461	.18249	.04768	.45219	.25577
1.197	11.150	.61172	-.01074	-.02374	.01364	-.00451	.17876	.04955	.56561	.29374
1.197	13.370	.73936	-.02746	.02276	.01306	-.00500	.17689	.05229	.67834	.34309
1.197	15.590	.85602	-.04185	.02463	.01402	-.00481	.17444	.05445	.77763	.39813
1.197	17.790	.97375	-.05225	.02610	.01470	-.00579	.17483	.05789	.87368	.46406
1.197	19.980	1.07019	-.05158	.03306	.01700	-.00471	.17287	.06161	.94657	.52833
1.197	22.080	1.14623	-.04379	.03630	.01834	-.00451	.17042	.06564	.99828	.58847
GRADIENT		.06748	-.01294	.00025	-.00004	.00018	-.00057	-.00025	.05701	.00345

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) CRD 34-0 (BCFM) (NE) (NR)

(R92036) (22 MAY 74)

REFERENCE DATA

SRF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6400 IN. YMRP = .0000 IN.
 BRF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .5540

PARAMETRIC DATA

BETA = 5.000 ELEVTR = 4.180
 AIRRON = -.670 BDFLAP = -11.700
 SPBRK = 55.000 RUDDER = .000
 CONFIC = 1.000

RUN NO. 404/ 0 RNL = 4.79 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.597	1.020	-.02227	.05835	-.10115	.01006	-.00461	.07662	.03130	-.02364	.07623
.597	3.010	.07868	.05319	-.10204	.01035	-.00697	.07250	.03267	.07476	.07662
.597	5.120	.16837	.04662	-.10184	.01064	-.00844	.06485	.03326	.18180	.08143
.597	7.220	.30395	.04112	-.10047	.01007	-.01040	.05494	.03316	.29463	.09281
.597	9.350	.41383	.03823	-.09762	.00911	-.01266	.04758	.03336	.40068	.11410
.597	11.440	.53362	.03280	-.09713	.00833	-.01246	.04287	.03493	.51449	.14795
.597	13.540	.64508	.02780	-.09625	.00804	-.01177	.04307	.03709	.61702	.19298
.597	15.680	.75018	.01378	-.09870	.01018	-.01060	.04444	.03915	.74878	.25636
.597	17.850	.93186	.00753	-.10596	.01139	-.00883	.03875	.04180	.87525	.32190
.597	19.930	1.05773	.00325	-.10910	.01107	-.00500	.03542	.04317	.98228	.39382
.597	21.960	1.17939	.00152	-.11577	.01220	-.00265	.03100	.04592	1.08216	.46985
GRADIENT		.05073	-.00259	-.00044	.00014	-.00118	-.00207	.00069	.04945	.00020

RUN NO. 415/ 0 RNL = 6.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.899	1.050	-.04170	.07419	-.12303	.01557	-.00383	.08712	.02757	-.04327	.08634
.899	3.120	.08163	.06214	-.12313	.01635	-.00697	.08624	.02777	.07682	.09056
.899	5.310	.20750	.05041	-.12450	.01762	-.00618	.08251	.02767	.19897	.10145
.899	7.480	.32023	.04186	-.11901	.01305	-.00932	.08575	.03041	.30640	.12676
.899	9.680	.43787	.03059	-.11606	.01082	-.01079	.08840	.03159	.41687	.16071
.899	11.850	.56414	.01597	-.11469	.00838	-.00971	.09340	.03414	.53284	.20731
.899	14.030	.68256	.00558	-.11538	.00504	-.00735	.09213	.03669	.63978	.25499
.899	16.210	.79391	.00658	-.10979	.00110	-.00608	.09114	.03885	.73681	.30925
.899	18.410	.90311	.01016	-.09850	.01033	-.00628	.09458	.04435	.82698	.37498
.899	20.580	.97856	.03187	-.08487	.02307	-.00683	.09360	.05141	.88329	.43139
.899	22.590	1.01182	.06529	-.05278	.03830	-.01962	.09968	.06220	.89575	.48084
GRADIENT		.05901	-.00577	-.00005	.00038	-.00150	-.00042	.00009	.05746	.00002

MSFC 581(0449) OFB 34-0 (BCFN) (NE) (VR)

(R92057) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1581.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7500 IN. ZMRP = .0000 IN.
 SCALE = .0540

PARAMETRIC DATA

BETA = 5.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPBRK = 85.000 RUDDER = .000
 CONFIC = 1.000

RUN NO. 407/ 0 RVL = 4.83 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.598	1.520	-.54915	.08810	-.10174	.01074	-.00412	.10223	.04209	-.05092	.10135
.598	3.010	-.04788	.08539	-.10145	.01045	-.00638	.09890	.04229	.04258	.10125
.598	5.110	.15658	.07958	-.10596	.01055	-.00795	.09154	.04130	.14775	.10508
.598	7.220	.27157	.07465	-.09811	.00959	-.00981	.08339	.04072	.25891	.11685
.598	9.330	.38371	.07228	-.09752	.00832	-.01226	.07682	.04180	.36615	.13804
.598	11.440	.50027	.07153	-.09585	.00814	-.01148	.07417	.04386	.47554	.17199
.598	13.550	.61888	.06656	-.09556	.00726	-.01069	.07339	.04493	.58445	.21643
.598	15.670	.75467	.05470	-.09841	.00871	-.00952	.07260	.04582	.79699	.27383
.598	17.810	.86202	.04484	-.10243	.00936	-.00726	.06613	.04807	.81942	.33289
.598	19.920	1.02290	.03916	-.10684	.00942	-.00412	.06309	.04906	.94020	.40785
.598	21.930	1.15211	.03058	-.10998	.00861	-.00288	.05818	.04935	1.04694	.48437
GRADIENT		.04876	-.00136	.00015	-.00015	-.00113	-.00168	.00010	.04698	-.00005

RUN NO. 414/ 0 RVL = 6.13 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.895	1.040	-.07378	.11817	-.11871	.01590	-.00383	.11616	.03218	-.07584	.11479
.895	3.140	.05347	.10927	-.11842	.01630	-.00598	.11528	.03208	.04709	.11813
.895	5.330	.18111	.09738	-.11822	.01640	-.00540	.11185	.03120	.16993	.12813
.895	7.500	.29404	.08903	-.11263	.01154	-.00765	.11430	.03267	.27657	.15178
.895	9.680	.41491	.07839	-.11234	.00967	-.00903	.11656	.03453	.38940	.18464
.895	11.890	.54824	.06214	-.11185	.00644	-.00785	.12019	.03758	.51175	.23066
.895	14.070	.66431	.05490	-.10930	.00254	-.00520	.11999	.03983	.61515	.27785
.895	16.240	.78184	.05194	-.10380	-.00242	-.00648	.11862	.04278	.71748	.33269
.895	18.430	.88614	.05303	-.09301	-.01156	-.00657	.11999	.04719	.80245	.39441
.895	20.580	.96413	.07023	-.07927	-.02420	-.00854	.11831	.05327	.86073	.45543
.895	22.800	.99484	.10070	-.05219	-.03820	-.01786	.12293	.06338	.87113	.49585
GRADIENT		.08060	-.00424	.00014	.00019	-.00103	-.00042	-.00005	.05854	.00190

MSFC 581(0449) CRB 34-0 (BCFM) (NE) (NR)

(R92059) (22 MAY 74)

REFERENCE DATA

SEEF = 2741.0000 30. FT WREF = 1081.3900 IN.
 LREF = 481.6400 IN. YREF = .0000 IN.
 BREF = 936.7500 IN. ZREF = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = 5.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPOBRK = 55.000 RUDDER = -20.000
 CONF16 = 1.000

RUN NO. 410/ 0 RWL = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAP	CAB	CL	CD
.895	1.030	-.02492	.06788	-.14991	.03429	-.01786	.08212	.03571	-.02639	.08163	.08290
.895	3.020	.07692	.06284	-.14815	.03342	-.01943	.07898	.03561	.07260	.08290	.08290
.895	5.110	.18190	.05561	-.14825	.03273	-.02100	.07054	.03728	.17483	.08653	.08653
.895	7.220	.29361	.05066	-.14579	.03177	-.02237	.05102	.03767	.28550	.09772	.09772
.895	9.330	.41246	.04808	-.14295	.03032	-.02443	.05180	.03758	.39862	.11893	.11893
.895	11.440	.52715	.04149	-.14020	.02926	-.02414	.04719	.03748	.50723	.15080	.15080
.895	13.550	.65146	.03750	-.13892	.02947	-.02247	.04778	.03944	.62202	.19516	.19516
.895	15.660	.78695	.02523	-.14354	.03081	-.02109	.04769	.04160	.74486	.25842	.25842
.895	17.790	.91547	.01723	-.14825	.03106	-.01854	.04346	.04287	.85837	.32121	.32121
.895	19.920	1.05077	.01165	-.15099	.03143	-.01432	.03885	.04415	.97463	.39470	.39470
.895	21.960	1.17589	.00578	-.15560	.03130	-.01177	.03247	.04586	1.07657	.46926	.46926
GRADIENT		.05118	-.00254	.00089	-.00044	-.00079	-.00158	-.00005	.04975	.00064	.00064

RUN NO. 413/ 0 RWL = 6.17 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.895	1.040	-.04219	.08598	-.17042	.04079	-.01697	.09919	.03150	-.04405	.09841
.895	3.130	.08065	.07740	-.16983	.04079	-.01874	.09664	.03257	.07515	.10096
.895	5.330	.21015	.06487	-.16993	.04050	-.01795	.09321	.03208	.20054	.11234
.895	7.570	.32308	.05526	-.16365	.03574	-.02080	.09605	.03297	.30768	.13745
.895	9.680	.43954	.04590	-.16129	.03351	-.02198	.09772	.03434	.41677	.17022
.895	11.890	.57836	.02635	-.15933	.03038	-.02090	.10233	.03797	.54481	.21938
.895	14.050	.68638	.02179	-.16041	.02743	-.01854	.09939	.03983	.64164	.26313
.895	16.260	.81373	.01367	-.15511	.02208	-.01933	.09919	.04209	.75339	.32318
.895	18.400	.89938	.02036	-.14579	.01460	-.01972	.09644	.04572	.82295	.37557
.895	20.570	.99102	.03304	-.13726	.00486	-.02070	.09527	.05318	.89428	.43748
.895	22.570	1.00701	.07101	-.10773	-.00981	-.03453	.10115	.06446	.89104	.47996
GRADIENT		.05822	-.00407	.00028	-.00001	-.00084	-.00121	.00074	.05650	.00121

MSFC 581(0449) ORS 34-0 (BCFM) (WE) (NR)

(R92060) (22 MAY 74)

REFERENCE DATA

SEEF = 2741.8000 SQ. FT XMRP = 1041.3950 IN.
 LEEF = 481.6400 IN. YMRP = .0000 IN.
 BREF = 936.7500 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = 5.000 ELEVTR = 4.160
 ALLRON = -.670 BDFLAP = -11.700
 SPDRK = 85.000 RUDDER = -20.000
 CONFIC = 1.000

RUN NO. 411/ 0 RWL = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYM	CBL	CAP	CAB	CL	CD
.995	1.030	-.04935	.09786	-.13599	.02571	-.01130	.10773	.04415	-.05131	.10674
.995	3.020	-.04700	.09224	-.12872	.02455	-.01354	.10400	.04395	-.04140	.10635
.995	5.120	.18051	.08584	-.12882	.02455	-.01462	.09654	.04366	.15119	.11057
.995	7.220	.27059	.08034	-.12558	.02301	-.01589	.08663	.04170	.25754	.11999
.995	9.330	.36646	.07619	-.12087	.02089	-.01825	.07712	.04278	.36880	.13873
.995	11.430	.50792	.07001	-.11783	.01973	-.01746	.07221	.04317	.48349	.17169
.995	13.530	.62389	.06441	-.11842	.01935	-.01599	.06885	.04601	.59014	.21418
.995	15.670	.76436	.05021	-.12205	.02117	-.01521	.07005	.04837	.71699	.27402
.995	17.820	.89546	.04051	-.12823	.02269	-.01266	.06367	.04964	.83296	.33475
.995	19.930	1.03536	.03288	-.13196	.02217	-.00893	.05995	.04994	.95285	.40932
.995	21.980	1.16104	.02590	-.13392	.02156	-.00638	.05376	.05033	1.05665	.48408
GRADIENT		.04841	-.00282	.00094	-.00058	-.00108	-.00187	-.00010	.04659	-.00020

RUN NO. 412/ 0 RWL = 6.29 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYM	CBL	CAP	CAB	CL	CD
.901	1.040	-.07584	.11901	-.15325	.03190	-.01050	.11979	.03552	-.07800	.11842
.901	3.130	.05239	.10836	-.15915	.03220	-.01217	.11901	.03630	.04582	.12166
.901	5.330	.18327	.09626	-.15433	.03278	-.01130	.11803	.03591	.17150	.13461
.901	7.510	.30032	.08381	-.14982	.02840	-.01452	.11911	.03630	.28217	.15737
.901	9.680	.41216	.07399	-.14668	.02568	-.01540	.11881	.03856	.38636	.13651
.901	11.880	.54098	.05806	-.14550	.02284	-.01452	.12215	.04072	.50419	.23085
.901	14.050	.69921	.05280	-.14236	.01914	-.01295	.12058	.04287	.61015	.27706
.901	16.270	.78910	.04152	-.13970	.01204	-.01285	.12176	.04464	.72327	.33799
.901	18.450	.88496	.04655	-.12582	.00340	-.01344	.11852	.04837	.80196	.39254
.901	20.580	.97375	.06033	-.11028	-.00905	-.01481	.11499	.05318	.87113	.45003
.901	22.800	.99818	.09167	-.07535	-.02564	-.02541	.11940	.06593	.87554	.49399
GRADIENT		.06135	-.00508	.00009	.00014	-.00080	-.00038	.00038	.05924	.00155

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) ORB 34-0 (BCPH) (NE) (NR)

(R92081) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 491.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 AILRON = 4.010
 SPDRK = 25.550
 CONFIG = 1.000

ELEVTR = -24.060
 BDFLAP = -11.700
 RUDDER = .000

PARAMETRIC DATA

RUN NO. 93/ 0 RWL = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.000	-.09134	.02407	-.00235	.00322	.00088	.12028	.01668	-.09134	.12028
2.990	1.950	-.03738	.02281	-.00294	.00292	.00088	.11675	.01668	-.04130	.11538
2.990	4.010	.02178	.02201	-.00235	.00283	.00098	.11194	.01776	.01393	.11322
2.990	6.060	.08104	.02073	-.00245	.00292	.00098	.10733	.01815	.06917	.11538
2.990	8.150	.14285	.02133	-.00226	.00332	.00088	.10351	.01825	.12666	.12274
2.990	10.220	.20397	.02163	-.00206	.00322	.00098	.10956	.01805	.18288	.13520
2.990	12.290	.26922	.02287	-.00265	.00302	.00098	.09634	.01759	.24253	.15148
2.990	14.370	.33446	.02168	-.00167	.00234	.00108	.09340	.01688	.30081	.17546
2.990	16.420	.40127	.02324	-.00029	.00196	.00108	.08967	.01658	.35948	.19956
2.990	18.520	.47250	.02292	-.00020	.00167	.00118	.08732	.01707	.42021	.23291
2.990	20.500	.54128	.02334	.00118	.00119	.00128	.08457	.01687	.47731	.26882
2.990	GRADIENT	.02821	-.00051	.00000	-.00010	.00002	-.00208	.00027	.02626	-.00175

RUN NO. 94/ 0 RWL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.950	.020	-.08006	-.00399	-.00118	.00274	.00118	.09271	.00510	-.08016	.09262
4.950	1.940	-.03685	-.00333	.00049	.00236	.00147	.08918	.00520	-.04189	.08781
4.950	3.980	.00628	-.00029	-.00157	.00205	.00137	.08604	.00540	.00029	.08634
4.950	5.990	.05426	.00338	-.00167	.00195	.00118	.08231	.00559	.04553	.08761
4.950	8.040	.09909	.00429	-.00186	.00155	.00128	.07878	.00549	.08702	.09183
4.950	10.080	.15178	.00755	-.00196	.00146	.00118	.07672	.00549	.13598	.10213
4.950	12.120	.20701	.01075	-.00020	.00137	.00137	.07525	.00549	.18661	.11705
4.950	14.160	.26441	.01447	.00020	.00118	.00128	.07417	.00549	.23821	.13667
4.950	16.180	.32681	.01798	.00069	.00090	.00137	.07162	.00540	.29384	.15992
4.950	18.260	.39038	.02180	.00118	.00050	.00157	.07142	.00530	.34829	.19024
4.950	20.190	.45465	.02351	.00088	-.00019	.00167	.07005	.00510	.40245	.22271
4.950	GRADIENT	.02181	.00094	-.00011	-.00017	.00005	-.00168	.00007	.02032	-.00158

MSFC 581(0449) CRB 34-0 (BCFN) (NE) (VR)

(R92082) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LEF = 481.6480 IN. YMRP = .0000 IN.
 SREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -24.060
 AILRON = 4.010 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 144/ 0 RV/L = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.950	21.000	.54991	.02280	.00039	.00069	.00078	.08330	.01737	.48349	.27491
2.990	22.980	.62183	.02308	.00137	.00040	.00098	.08035	.01717	.54108	.31690
2.990	25.070	.69845	.02411	.00147	.00031	.00157	.07839	.01707	.59936	.36703
2.990	27.140	.77439	.02455	.00245	-.00018	.00137	.07535	.01717	.65469	.42031
2.990	29.250	.85454	.02403	.00383	-.00095	.00147	.07270	.01698	.71003	.48104
2.990	31.340	.93706	.02376	.00363	-.00046	.00128	.07005	.01717	.76379	.54726
2.990	33.430	1.02251	.02232	.00383	-.00046	.00098	.06789	.01776	.81579	.62016
2.990	35.530	1.11061	.02073	.00520	-.00045	.00128	.06603	.01786	.86534	.69924
2.990	37.610	1.19528	.01831	.00471	-.00025	.00098	.06387	.01805	.90782	.78008
2.990	39.720	1.28191	.01650	.00412	-.00016	.00069	.06122	.01805	.94677	.86642
2.990	41.710	1.36629	.01504	.00549	-.00015	.00118	.05936	.01805	.98022	.95354
GRADIENT		.03952	-.00040	.00023	-.00004	-.00001	-.00115	.00005	.02426	.03286

RUN NO. 143/ 0 RV/L = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.680	.45209	.02018	.00304	.00071	.00059	.06917	.00461	.39853	.22438
4.959	22.620	.52087	.02292	.00285	.00012	.00088	.06848	.00451	.45435	.26362
4.959	24.670	.59416	.02709	.00392	-.00026	.00088	.06789	.00451	.51155	.30974
4.959	26.710	.67068	.02928	.00373	-.00046	.00098	.06760	.00441	.56875	.36183
4.959	28.780	.75084	.03230	.00549	-.00005	.00128	.06740	.00432	.62555	.42070
4.959	30.840	.83051	.03328	.00598	-.00054	.00157	.06632	.00432	.67902	.48270
4.959	32.890	.91930	.03450	.00579	-.00005	.00137	.06505	.00441	.73652	.55393
4.959	34.950	1.00534	.03423	.00618	-.00034	.00128	.06426	.00422	.78714	.62869
4.959	36.990	1.09109	.03454	.00726	-.00073	.00186	.06318	.00422	.83335	.70708
4.959	39.070	1.17959	.03566	.00903	-.00071	.00235	.06250	.00422	.87633	.79205
4.959	41.020	1.26229	.03398	.00952	-.00100	.00285	.06093	.00422	.91223	.87456
GRADIENT		.04006	.00069	.00032	-.00006	.00009	-.00039	-.00002	.02564	.03210

MSFC 581(0449) ORB 34-0 (BCFM) (NE) (VR)

(R92083) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.9900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -14.670
 AILRON = 4.540 BDFLAP = -11.700
 SPDERR = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 96/ 0 RNVL = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.000	-.06632	.00929	-.00245	.00322	.00177	.11155	.01688	-.06632	.11155
2.990	1.960	-.01344	.01071	-.00294	.00341	.00147	.10830	.01717	-.01717	.10871
2.990	4.930	.04435	.01038	-.00314	.00282	.00118	.10366	.01746	.03679	.10871
2.990	6.070	.10174	.01033	-.00285	.00282	.00098	.10105	.01707	.09046	.11126
2.990	8.160	.16169	.01061	-.00265	.00312	.00078	.09762	.01717	.14618	.11960
2.990	10.230	.22124	.01117	-.00235	.00273	.00049	.09389	.01668	.20103	.13176
2.990	12.300	.28648	.01105	-.00255	.00253	.00020	.09124	.01668	.26039	.15021
2.990	14.380	.35202	.01142	-.00039	.00206	.00049	.08820	.01648	.31906	.17287
2.990	16.430	.41864	.01162	-.00020	.00186	.00029	.08565	.01629	.37733	.20064
2.990	18.560	.48271	.01048	-.00039	.00137	.00039	.08349	.01668	.44052	.23596
2.990	20.510	.56149	.01013	.00010	.00108	.00029	.08084	.01697	.49752	.27255
GRADIENT		.02747	.00027	-.00017	-.00010	-.00015	-.00141	.00015	.02559	-.00070

RUN NO. 95/ 0 RNVL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.020	-.06318	-.01349	-.00451	.00251	.00108	.08781	.00510	-.06318	.08771
4.999	1.950	-.02404	-.00977	-.00461	.00330	.00088	.08545	.00520	-.02688	.08457
4.999	3.980	.02080	-.00741	-.00343	.00252	.00098	.08271	.00540	.01501	.08388
4.999	5.990	.06426	-.00632	-.00363	.00203	.00078	.07849	.00540	.05573	.08477
4.999	8.090	.11312	-.00148	-.00304	.00262	.00049	.07555	.00540	.10135	.09065
4.999	10.080	.16178	-.00012	-.00324	.00164	-.00020	.07378	.00540	.14638	.10096
4.999	12.120	.21692	.00182	-.00265	.00223	-.00029	.07270	.00559	.19681	.11665
4.999	14.160	.27589	.00518	-.00216	.00204	-.00039	.07113	.00530	.25008	.13647
4.999	16.180	.33770	.00762	-.00039	.00166	-.00029	.06995	.00530	.30483	.16139
4.999	18.260	.40039	.00891	-.00000	.00088	-.00078	.06799	.00530	.35889	.19014
4.999	20.190	.46563	.01014	.00000	.00088	-.00049	.06648	.00520	.41334	.22507
GRADIENT		.02122	.00153	.00028	-.00000	-.00002	-.00129	.00007	.01975	-.00096

MSFC 581 (0449) CRB 34-0 (BCFM) (WE) (VR)

(R92084) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
LREF = 481.6480 IN.
BREF = 936.7000 IN.
SCALE = .0040

BETA = .000
ELEVTR = -14.670
AILRON = 4.540
BDFLAP = -11.700
SPDRK = 25.550
RUDDER = .000
CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 141/ 0 RNL = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.010	.56492	.01153	.00157	.00060	.00137	.07996	.01707	.49870	.27716
2.990	22.990	.63870	.01116	.00255	.00041	.00167	.07761	.01717	.55756	.32102
2.990	25.080	.71542	.01017	.00275	.00002	.00186	.07505	.01727	.61614	.37125
2.990	27.190	.79470	.01027	.00363	-.00036	.00177	.07260	.01717	.67402	.42727
2.990	29.260	.87544	.00963	.00471	-.00075	.00147	.06985	.01678	.72955	.48889
2.990	31.350	.95992	.00817	.00491	-.00045	.00137	.06730	.01727	.78469	.55697
2.990	33.450	1.04645	.00578	.00510	-.00045	.00147	.06495	.01776	.83728	.63105
2.990	35.540	1.13681	.00161	.00569	-.00074	.00167	.06318	.01786	.88810	.71238
2.990	37.640	1.22334	-.00291	.00549	-.00074	.00137	.06122	.01795	.93127	.79558
2.990	39.740	1.31419	-.00542	.00500	-.00066	.00128	.05936	.01795	.97257	.88584
2.990	41.750	1.39582	-.00818	.00677	-.00043	.00157	.05690	.01795	1.00377	.97159
GRADIENT		.04029	-.00098	.00021	-.00004	-.00001	-.00111	.00005	.02472	.03367

RUN NO. 142/ 0 RNL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.680	.46532	.01160	.00245	.00090	.00039	.06878	.00510	.41187	.22909
4.959	22.630	.53284	.01431	.00363	.00081	.00059	.06789	.00461	.46563	.26774
4.959	24.680	.60917	.01824	.00402	.00072	.00078	.06672	.00461	.52558	.31503
4.959	26.710	.68422	.01944	.00441	.00004	.00128	.06583	.00461	.58150	.36644
4.959	28.780	.76693	.02008	.00618	-.00064	.00196	.06475	.00432	.64096	.42609
4.959	30.840	.85101	.02094	.00598	-.00025	.00216	.06407	.00451	.69776	.49134
4.959	32.900	.94157	.02026	.00648	-.00044	.00157	.06367	.00471	.75585	.56502
4.959	34.960	1.02859	.02087	.00628	.00025	.00226	.06259	.00441	.80706	.64076
4.959	37.000	1.11925	.01893	.00736	-.00023	.00304	.06152	.00461	.85670	.72278
4.959	39.080	1.21000	.01651	.00844	-.00081	.00314	.06004	.00451	.90134	.80951
4.959	41.030	1.29457	.01535	.00883	-.00130	.00343	.05847	.00500	.93804	.89408
GRADIENT		.04106	.00014	.00029	-.00009	.00015	-.00047	-.00000	.02635	.03289



MSFC 581(0A49) ORB 34-0 (BCFM) (ME) (NR)

(R92085) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -5.000
 ATLORN = 4.280 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 206/ 0 RV/L = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.596	-.050	-.21781	.11529	-.01060	.00609	.01580	.06465	.02217	-.21771	.06485
.596	1.950	-.12264	.11323	-.01128	.00579	.01481	.06358	.02345	-.12470	.05936
.596	4.060	-.02777	.11213	-.01344	.00646	.01491	.05975	.02374	-.03198	.05759
.596	6.130	.07250	.11344	-.01462	.00675	.01570	.05229	.02443	.06652	.05975
.596	8.230	.17778	.11329	-.01413	.00587	.01629	.04297	.02482	.16973	.06799
.596	10.320	.28089	.10961	-.01344	.00489	.01638	.03640	.02492	.26980	.08614
.596	12.430	.39166	.10703	-.01324	.00489	.01746	.03287	.02659	.37537	.11646
.596	14.530	.50939	.10137	-.01481	.00537	.01668	.03110	.02855	.48526	.15796
.596	16.650	.64890	.08880	-.01413	.00528	.01609	.02992	.03140	.61309	.21467
.596	18.770	.79028	.07819	-.01629	.00556	.01835	.02512	.03346	.74005	.27814
.596	20.780	.91979	.07117	-.01923	.00583	.02247	.02217	.03728	.85199	.34721
GRADIENT		.04623	-.00077	-.00070	.00009	-.00021	-.00120	.00038	.04518	-.00176

RUN NO. 205/ 0 RV/L = 6.21 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.897	-.080	-.19181	.11841	-.02423	.00971	.01285	.08339	.02590	-.19161	.08369
.897	2.000	-.07800	.11230	-.02306	.00933	.01099	.08271	.02571	-.08084	.07986
.897	4.200	.05798	.09725	-.02257	.00953	.00903	.08016	.02482	.05200	.08418
.897	6.370	.17532	.08743	-.02021	.00817	.00697	.07947	.02453	.16541	.09841
.897	8.530	.28688	.07866	-.01786	.00741	.00481	.08045	.02541	.27177	.12215
.897	10.710	.40579	.06499	-.01707	.00692	.00402	.08035	.02688	.38371	.15443
.897	12.870	.52352	.05265	-.01246	.00549	.00432	.08202	.02983	.49212	.19661
.897	15.040	.63017	.04952	-.01001	.00551	.00755	.08575	.03512	.58621	.24636
.897	17.190	.72239	.05622	-.00687	.00475	.00863	.08663	.03777	.66441	.29639
.897	19.370	.82521	.06047	-.00608	.00486	.00961	.08977	.04238	.74858	.35850
.897	21.380	.87191	.06646	-.00598	.00264	.00854	.09124	.04758	.77861	.40284
GRADIENT		.05840	-.00496	.00039	-.00004	-.00089	-.00076	-.00025	.05695	.00013

MSFC 581(0M49) CRB 34-0 (BCFN) (WE) (VR)

(R92085) (22 MAY 74)

REFERENCE DATA

SREF = 2742.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = -5.000
 AIRLON = 4.280 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 97/ 0 RWL = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.010	-.05367	.00224	-.00245	.00263	.00226	.10792	.01727	-.05376	.10792
2.990	1.970	-.00298	.00279	-.00186	.00244	.00216	.10596	.01737	-.00461	.10586
2.990	4.030	.03249	.00413	-.00196	.00263	.00206	.10282	.01776	.04503	.10625
2.990	6.080	.10979	.00436	-.00137	.00234	.00235	.09821	.01717	.09880	.10930
2.990	8.170	.17111	.00370	-.00157	.00215	.00235	.09468	.01678	.11590	.11803
2.990	10.230	.23291	.00324	-.00200	.00196	.00255	.09183	.01697	.21290	.13176
2.990	12.310	.29718	.00358	-.00239	.00166	.00275	.08938	.01678	.27128	.15070
2.990	14.380	.36399	.00368	-.00210	.00128	.00285	.08653	.01688	.33112	.17424
2.990	16.440	.43080	.00291	.00269	.00099	.00304	.08388	.01678	.38940	.20240
2.990	18.540	.50331	.00146	.00167	.00041	.00334	.08133	.01688	.45131	.23723
2.990	20.520	.57503	-.00001	.00186	.00002	.00363	.07849	.01688	.51106	.27510
GRADIENT		.02640	.00047	.00012	.00000	-.00005	-.00127	.00012	.02457	-.00041

RUN NO. 98/ 0 RWL = 4.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.020	-.05690	-.01832	-.00324	.00194	.00157	.08693	.00500	-.05700	.08693
4.959	1.930	-.01727	-.01430	-.00275	.00204	.00177	.08408	.00530	-.02021	.08349
4.959	3.980	.02698	-.01001	-.00157	.00175	.00186	.08222	.00540	.02119	.08388
4.959	6.000	.07162	-.00746	.00020	.00108	.00196	.07829	.00549	.06309	.08536
4.959	8.050	.11999	-.00466	-.00186	.00106	.00167	.07515	.00540	.10822	.09124
4.959	10.080	.16934	-.00107	-.00275	.00115	.00216	.07388	.00540	.15374	.10243
4.959	12.120	.22536	.00166	-.00226	.00057	.00226	.07211	.00540	.20515	.11783
4.959	14.160	.28393	.00357	.00010	.00000	.00265	.07064	.00530	.25803	.13794
4.959	16.190	.34613	.00659	.00128	-.00028	.00255	.06897	.00530	.31317	.16277
4.959	18.250	.41432	.00971	.00167	-.00038	.00314	.06848	.00510	.37194	.19485
4.959	20.200	.47947	.01182	.00147	-.00038	.00353	.06789	.00520	.42649	.22938
GRADIENT		.02119	.00210	.00042	-.00005	.00007	-.00119	.00010	.01975	-.00076



DATE 10 JUL 74

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MSFC 581(0449) CRB 34-0 (BCFM) (NE) (NR)

(R92086) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -5.000
 ALLRON = 4.280 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 140/ 0 RNLV = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.010	.58189	.00030	.00186	-.00008	.00324	.07741	.01678	.51538	.28099
2.990	23.000	.63613	-.00110	.00206	-.00028	.00373	.07574	.01717	.57620	.32690
2.990	25.090	.73720	-.00332	.00294	-.00066	.00422	.07348	.01707	.63644	.37920
2.990	27.160	.81628	-.00476	.00353	-.00134	.00441	.07044	.01727	.69404	.43532
2.990	29.270	.89889	-.00586	.00451	-.00173	.00481	.06838	.01688	.75065	.49919
2.990	31.360	.98817	-.01169	.00432	-.00173	.00500	.06740	.01746	.80863	.57199
2.990	33.460	1.07510	-.01572	.00373	-.00203	.00559	.06505	.01795	.86102	.64704
2.990	35.560	1.16614	-.01968	.00471	-.00232	.00559	.06240	.01815	.91233	.72896
2.990	37.630	1.25435	-.02524	.00451	-.00202	.00559	.06024	.01835	.95648	.81363
2.990	39.750	1.34637	-.02899	.00432	-.00183	.00559	.05779	.01835	.99808	.90546
2.990	41.740	1.43085	-.03306	.00451	-.00193	.00618	.05573	.01825	1.03036	.99435
GRADIENT		.04111	-.00167	.00012	-.00009	.00012	-.00104	.00008	.02517	.03455

RUN NO. 139/ 0 RNLV = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.690	.48575	.00805	.00157	-.00018	.00314	.06799	.00491	.43041	.23527
4.959	22.640	.55776	.00968	.00265	-.00116	.00353	.06632	.00491	.48918	.27589
4.959	24.690	.63223	.00971	.00304	-.00135	.00412	.06485	.00461	.54726	.32308
4.959	26.720	.70983	.01104	.00412	-.00154	.00491	.06416	.00451	.60505	.37655
4.959	28.800	.79460	.00891	.00392	-.00222	.00520	.06318	.00471	.66578	.43816
4.959	30.850	.88143	.00798	.00441	-.00173	.00549	.06230	.00461	.72465	.50556
4.959	32.910	.97326	.00635	.00422	-.00124	.00598	.06152	.00481	.78351	.58052
4.959	34.970	1.06234	.00332	.00471	-.00153	.00618	.06083	.00471	.83561	.65881
4.959	37.010	1.15349	-.00170	.00510	-.00212	.00667	.05906	.00471	.88535	.74162
4.959	39.110	1.24846	-.00376	.00687	-.00230	.00736	.05847	.00451	.93176	.83306
4.959	41.050	1.33195	-.00717	.00795	-.00249	.00824	.05681	.00451	.96718	.91763
GRADIENT		.04192	-.00081	.00025	-.00008	.00023	-.00050	-.00001	.02685	.03376

MSFC 581(0A49) CRB 34-0 (BCFM) (WE) (WR)

(R92087) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

XMRP = 1081.3900 IN.
 YMRP = .0000 IN.
 ZMRP = .0000 IN.

PARAMETRIC DATA

BETA = .000
 AILRON = 4.900
 SPDRK = 25.550
 RUDDER = .000
 CONFIG = 1.000

ELEVTR = 4.360

BDCLAP = -11.700

RUDER = .000

RUN NO. 203/ 0 RIVL = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.995	.040	-.03836	.02685	-.01835	.00325	.02188	.06318	.02796	-.03846	.06318
.995	2.050	.05739	.02626	-.02051	.00303	.02237	.06201	.02875	.05514	.06397
.995	4.140	.16100	.02491	-.02031	.00323	.02286	.05661	.02992	.15649	.06809
.995	6.240	.26284	.02180	-.02207	.00580	.02443	.04915	.02884	.25597	.07751
.995	8.330	.36841	.01923	-.02041	.00464	.02463	.03934	.02924	.35879	.09242
.995	10.430	.47750	.01739	-.01776	.00339	.02237	.03414	.02992	.46338	.12009
.995	12.530	.58690	.01121	-.01599	.00320	.02150	.03385	.03100	.56551	.16031
.995	14.640	.70983	.00466	-.01570	.00389	.01913	.03542	.03395	.67775	.21369
.995	16.750	.84925	-.00569	-.01786	.00427	.01815	.03444	.03669	.80323	.27785
.995	18.880	1.00102	-.01709	-.02021	.00602	.02257	.02914	.04072	.93764	.35163
.995	20.890	1.11120	-.02123	-.01844	.00387	.02306	.02826	.04454	1.02800	.42276
GRADIENT		.04863	-.00048	-.00047	-.00000	.00024	-.00161	.00048	.04755	.00120

RUN NO. 204/ 0 RIVL = 6.23 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.990	.040	-.05435	.03879	-.02188	.00806	.01746	.07810	.02698	-.05445	.07810
.990	2.130	.07555	.02645	-.02257	.00845	.01629	.07780	.02698	.07260	.08055
.990	4.340	.20603	.01238	-.02767	.00978	.02060	.07584	.02639	.19966	.09124
.990	6.480	.31023	.00989	-.02561	.00891	.02178	.07849	.02649	.29934	.11302
.990	8.630	.41128	.00289	-.02139	.00777	.02139	.08114	.02914	.39441	.14197
.990	10.790	.51940	-.00515	-.01815	.00662	.02198	.08310	.03140	.49467	.17895
.990	12.960	.63586	-.02099	-.01648	.00585	.02286	.08722	.03453	.60005	.22762
.990	15.140	.76075	-.02702	-.01403	.00558	.02276	.08830	.03915	.71120	.28393
.990	17.320	.86877	-.02936	-.01060	.00413	.02031	.09203	.04395	.80196	.34653
.990	19.440	.95364	-.01592	-.00844	.00248	.01923	.09350	.05053	.86799	.40569
.990	21.480	.99837	.00811	.00510	-.00231	.01344	.09625	.05838	.89379	.45523
GRADIENT		.06054	-.00614	-.00136	.00040	.00074	-.00053	-.00014	.05908	.00307

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) CRB 34-0 (BCFN) (NE) (VR)

(R92087) (22 MAY 74)

REFERENCE DATA

SEF = 2741.0000 SA. FT XMRP = 1081.9900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7550 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.360
 AIRLON = 4.900 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 100/ 0 RWL = 4.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CLB	CAP	CAB	CL	CD
2.990	.020	-.03542	-.01101	-.00167	.00165	.00216	.10763	.01737	-.03552	.10763
2.990	1.980	.01717	-.00949	-.00177	.00185	.00235	.10635	.01736	.01344	.10694
2.990	4.040	.07290	-.00900	-.00196	.00195	.00294	.10321	.01776	.06905	.10812
2.990	6.090	.13186	-.00950	-.00177	.00165	.00314	.09968	.01766	.12048	.11312
2.990	8.180	.19328	-.01161	-.00157	.00116	.00324	.09605	.01746	.17768	.12254
2.990	10.250	.25617	-.01226	-.00137	.00136	.00343	.09321	.01737	.23547	.13736
2.990	12.320	.32337	-.01370	-.00039	.00049	.00363	.09056	.01707	.29659	.15757
2.990	14.390	.39028	-.01553	.00010	.00010	.00392	.08820	.01678	.35604	.18249
2.990	16.450	.46004	-.01848	.00069	-.00039	.00422	.08614	.01658	.41677	.21300
2.990	18.550	.53539	-.02037	.00128	-.00077	.00471	.08369	.01648	.48094	.24979
2.990	20.550	.60878	-.02365	.00186	-.00106	.00520	.08192	.01668	.54138	.29021
2.990	GRADIENT	.02685	.00050	-.00007	.00007	.00020	-.00110	.00010	.02502	.00013

RUN NO. 99/ 0 RWL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CLB	CAF	CAB	CL	CD
4.959	.030	-.04081	-.02551	-.00383	.00193	.00128	.08614	.00520	-.04081	.08614
4.959	1.980	.01337	-.02130	-.00334	.00213	.00147	.08467	.00530	-.00422	.08457
4.959	3.990	.03866	-.01766	-.00285	.00164	.00167	.08173	.00540	.03287	.08428
4.959	6.000	.08457	-.01806	-.00167	.00136	.00216	.07761	.00549	.07594	.08604
4.959	8.050	.13579	-.01592	-.00314	.00125	.00235	.07584	.00540	.12382	.09419
4.959	10.090	.18494	-.01291	-.00196	.00106	.00265	.07417	.00559	.16904	.10547
4.959	12.130	.24459	-.01312	-.00216	.00008	.00255	.07250	.00530	.22389	.12234
4.959	14.170	.30267	-.01171	.00020	.00010	.00324	.07162	.00540	.27589	.14363
4.959	16.190	.36978	-.01102	.00059	-.00039	.00373	.07054	.00530	.33534	.17091
4.959	18.280	.44003	-.01145	.00108	-.00107	.00422	.07005	.00530	.39588	.20436
4.959	20.200	.50664	-.01358	.00285	-.00164	.00461	.06927	.00520	.45151	.24008
4.959	GRADIENT	.02007	.00198	.00025	-.00007	.00010	-.00112	.00005	.01860	-.00047

MSFC 581(0A49) ORB 34-0 (BCFM) (ME) (VR)

(R92088) (22 MAY 74)

REFERENCE DATA

SRF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BRF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .050
 ALLRON = 4.900
 SPDPRK = 25.550
 CONF16 = 1.000

ELEVTR = 4.360
 BDFLAP = -11.700
 RUDDER = .000

RUN NO. 137/ 0 RNL = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	COB	CAP	CAB	CL	CD
2.990	21.030	.61437	-.02482	.00226	-.00126	.00500	.09104	.01629	.34442	.29610
2.990	23.010	.59011	-.02844	.00363	-.00183	.00549	.07986	.01668	.60397	.34339
2.990	25.100	.77174	-.03139	.00451	-.00242	.00598	.07810	.01688	.66568	.39813
2.990	27.170	.85553	-.03499	.00549	-.00270	.00657	.07692	.01688	.72592	.45916
2.990	29.280	.94314	-.03910	.00569	-.00329	.00697	.07535	.01707	.78567	.52715
2.990	31.380	1.03075	-.04373	.00589	-.00358	.00706	.07368	.01776	.84159	.59965
2.990	33.480	1.12464	-.04518	.00648	-.00358	.00746	.07270	.01825	.89791	.68108
2.990	35.570	1.21775	-.05090	.00746	-.00406	.00785	.07133	.01844	.94883	.76654
2.990	37.670	1.31154	-.05681	.00726	-.00347	.00765	.06995	.01864	.99524	.85700
2.990	39.770	1.40357	-.07402	.00638	-.00348	.00795	.06838	.01864	1.03497	.95050
2.990	41.760	1.49413	-.08263	.00736	-.00426	.00834	.06730	.01884	1.06951	1.04547
GRADIENT		.04263	-.00277	.00022	-.00012	.00015	-.00067	.00013	.02570	.03628

RUN NO. 138/ 0 RNL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	COB	CAP	CAB	CL	CD
4.999	20.690	.50537	-.01302	.00353	-.00027	.00549	.07025	.00540	.44788	.24439
4.999	22.640	.57866	-.01523	.00598	-.00123	.00618	.06927	.00491	.50743	.28678
4.999	24.690	.65518	-.01672	.00510	-.00202	.00677	.06848	.00481	.56669	.33603
4.999	26.720	.73828	-.01868	.00677	-.00328	.00746	.06760	.00451	.62889	.39244
4.999	28.800	.82855	-.01927	.00657	-.00269	.00814	.06617	.00481	.69266	.45984
4.999	30.860	.91714	-.02298	.00765	-.00268	.00893	.06558	.00471	.75202	.52941
4.999	32.920	1.01103	-.02719	.00687	-.00259	.00893	.06338	.00491	.81147	.60691
4.999	34.960	1.10355	-.03412	.00795	-.00376	.00932	.06730	.00471	.86553	.68785
4.999	37.040	1.20235	-.04067	.00834	-.00435	.00961	.06779	.00461	.91881	.77851
4.999	39.100	1.29575	-.04498	.00932	-.00453	.01060	.06819	.00471	.96247	.87024
4.999	41.060	1.38768	-.04990	.01060	-.00472	.01118	.06750	.00441	1.00191	.96247
GRADIENT		.04364	-.00184	.00027	-.00019	.00026	-.00010	-.00003	.02768	.03545



DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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(R92089) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

MSFC 581 (0A49) CRB 34-0 (RCFM) (NE) (VR)

PARAMETRIC DATA

BETA = .000 ELEVTR = 12.040
 AIRQI = 3.080 BOFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIC = 1.000

RUN NO. 101/ 0 RVL = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.030	-.01903	-.02061	-.00167	.00116	.00226	.11018	.01746	-.01313	.11018
2.990	1.980	.03257	-.02153	-.00059	.00078	.00245	.10900	.01766	.02884	.10998
2.990	4.050	.09056	-.02196	.00029	.00089	.00275	.10694	.01786	.08281	.11312
2.990	6.090	.15021	-.02439	-.00098	.00068	.00304	.10380	.01746	.13834	.11920
2.990	8.180	.21202	-.02737	.00000	.00039	.00334	.10076	.01737	.19553	.13000
2.990	10.250	.27805	-.03028	.00020	.00030	.00343	.09909	.01727	.25597	.14697
2.990	12.330	.34525	-.03259	.00078	.00029	.00363	.09723	.01678	.31660	.16875
2.990	14.400	.41687	-.03580	.00177	-.00087	.00412	.09556	.01658	.37998	.19632
2.990	16.480	.49036	-.03908	.00235	-.00126	.00441	.09487	.01609	.44336	.22997
2.990	18.580	.56718	-.04501	.00255	-.00224	.00481	.09321	.01619	.50792	.26902
2.990	20.540	.64194	-.05097	.00275	-.00302	.00520	.09262	.01648	.56855	.31209
GRADIENT		.02727	-.00033	.00049	-.00007	.00012	-.00081	.00010	.02536	.00074

RUN NO. 102/ 0 RVL = 4.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.030	-.03617	-.03030	-.00118	.00176	.00157	.08663	.00520	-.03826	.08663
4.999	1.980	.00451	-.02904	-.00137	.00175	.00216	.08565	.00530	.00157	.08575
4.999	3.990	.04729	-.02623	.00039	.00138	.00255	.08339	.00540	.04130	.08653
4.999	6.000	.09340	-.02704	.00020	.00118	.00285	.07986	.00540	.08457	.08918
4.999	8.090	.14511	-.02786	.00010	.00020	.00304	.07790	.00540	.13265	.09831
4.999	10.090	.19867	-.02681	.00128	.00040	.00353	.07790	.00559	.18190	.11145
4.999	12.130	.26019	-.02815	.00039	-.00068	.00373	.07712	.00540	.23811	.13009
4.999	14.170	.32259	-.02928	.00078	-.00147	.00422	.07741	.00530	.29384	.15403
4.999	16.220	.39264	-.03193	.00128	-.00195	.00471	.07721	.00540	.35546	.18386
4.999	18.280	.46259	-.03382	.00245	-.00243	.00549	.07761	.00540	.41491	.21869
4.999	20.210	.53922	-.03723	.00353	-.00340	.00608	.07859	.00540	.47878	.26009
GRADIENT		.02158	-.00103	.00040	-.00010	.00025	-.00082	.00005	.02009	-.00002

MSFC 581 (0449) ORB 34-0 (BCFM) (ME) (VR)

REFERENCE DATA

SRF = 2741.8000 SQ. FT

LRF = 481.6400 IN.

PRF = 936.7000 IN.

SCALE = .0040

PARAMETRIC DATA

BETA = .000

ALTRON = 3.080

SPDRBK = 25.550

CONFIG = 1.000

ELEVTR = 12.040

BCFLAP = -11.700

RUDDER = .000

RUN NO. 136/ 0 RNVL = 4.07 GRADIENT INTERVAL = -5.00/ 5.00									
MACH	ALPHA	CN	CLM	CY	CYN	CEL	CAP	CAB	CD
2.990	21.040	.65106	-.03208	.00265	-.00282	.00569	.09271	.01638	.32033
2.990	23.040	.73083	-.05710	.00441	-.00369	.00828	.09222	.01658	.37076
2.990	25.110	.81196	-.08296	.00461	-.00467	.00657	.09114	.01658	.42727
2.990	27.180	.89928	-.06824	.00828	-.00544	.00697	.09144	.01678	.49232
2.990	29.300	.98876	-.07464	.00687	-.00563	.00736	.09154	.01717	.56384
2.990	31.390	1.07961	-.08315	.00667	-.00642	.00726	.09134	.01795	.64047
2.990	33.490	1.17586	-.09187	.00805	-.00631	.00775	.09164	.01835	.72543
2.990	35.500	1.27495	-.10083	.00824	-.00680	.00824	.09183	.01884	.81687
2.990	37.670	1.36717	-.11096	.00697	-.00652	.00785	.09144	.01903	.90792
2.990	39.790	1.46558	-.12129	.00726	-.00632	.00795	.09124	.01894	1.00819
2.990	41.790	1.56173	-.13213	.00824	-.00670	.00854	.09144	.01894	1.10895
2.990	GRADIENT	.04400	-.00385	.00022	-.00017	.00012	-.00004	.00015	.03811

RUN NO. 135/ 0 RNVL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00									
MACH	ALPHA	CN	CLM	CY	CYN	CEL	CAP	CAB	CD
4.999	20.700	.54726	-.03798	.00471	-.00429	.00765	.08035	.00520	.26863
4.999	22.650	.62546	-.04166	.00451	-.00497	.00834	.08045	.00491	.31523
4.999	24.710	.70690	-.04549	.00559	-.00545	.00893	.08104	.00481	.36899
4.999	26.740	.79529	-.04785	.00667	-.00583	.01011	.08231	.00471	.43149
4.999	28.820	.88143	-.05372	.00775	-.00661	.01030	.08320	.00471	.49791
4.999	30.880	.97846	-.06146	.00785	-.00671	.01050	.08506	.00491	.57532
4.999	32.940	1.07500	-.06708	.00677	-.00583	.01060	.08663	.00510	.65724
4.999	35.000	1.17233	-.07442	.00795	-.00700	.01069	.08732	.00520	.74407
4.999	37.040	1.26955	-.08293	.00903	-.00748	.01109	.08820	.00520	.83531
4.999	39.140	1.36482	-.09050	.01020	-.00786	.01158	.08958	.00510	.93107
4.999	41.080	1.45900	-.09905	.01128	-.00884	.01226	.09026	.00481	1.02673
4.999	GRADIENT	.04503	-.00301	.00030	-.00019	.00019	.00034	.00001	.03742

REFERENCE DATA

PARAMETRIC DATA

BETA = .000 ELEVTR = -24.640
AILRON = 0.700 BCFAP = -11.700
SPDRK = 23.550 RUDDER = .000
CONFIC = 1.000

RUN NO. 104/ 0 RNVL = 4.10 GRADIENT INTERVAL = -5.00/ 5.00									
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CD
2.995	-0.020	-0.09321	.02598	-.00398	.00643	.00320	.12205	.01756	.12215
2.995	1.950	-.04209	.02699	-.00340	.00604	.00481	.11773	.01727	.11626
2.995	4.020	.01362	.02575	-.00441	.00507	.00412	.11243	.01756	.11361
2.995	6.080	.07829	.02446	-.00451	.00487	.00393	.10714	.01766	.11479
2.995	8.150	.13932	.02466	-.00510	.00526	.00343	.10351	.01805	.12225
2.995	10.220	.20373	.02448	-.00559	.00506	.00314	.10007	.01786	.13412
2.995	12.290	.26549	.02619	-.00590	.00526	.00285	.09664	.01737	.15089
2.995	14.370	.32965	.02644	-.00602	.00438	.00265	.09330	.01648	.17218
2.995	16.420	.39784	.02599	-.006265	.00371	.00255	.09046	.01697	.19936
2.995	18.520	.46858	.02622	-.00688	.00303	.00226	.08712	.01697	.23144
2.995	20.570	.53833	.02562	-.00700	.00255	.00235	.08369	.01707	.26706
GRADIENT		.02794	-.00606	.00039	-.00034	-.00027	-.00238	.00000	-.00211

RUN NO. 103/ 0 RNVL = 4.87 GRADIENT INTERVAL = -5.00/ 5.00									
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CD
4.959	.020	-.08222	-.00228	-.00589	.00564	.00481	.09791	.00500	.09791
4.959	1.940	-.04209	.00010	-.00667	.00573	.00412	.09311	.00530	.09154
4.959	3.900	.00805	.00322	-.00559	.00427	.00373	.08908	.00540	.08948
4.959	5.990	.05278	.00355	-.00432	.00389	.00324	.08339	.00530	.08850
4.959	8.040	.10272	.00561	-.00510	.00359	.00255	.07986	.00540	.09340
4.959	10.080	.15315	.00875	-.00324	.00370	.00235	.07800	.00540	.10360
4.959	12.120	.20819	.01154	-.00343	.00272	.00167	.07564	.00520	.11773
4.959	14.160	.26578	.01372	-.00363	.00252	.00108	.07348	.00549	.13628
4.959	16.160	.32897	.01841	-.00049	.00215	.00118	.07192	.00530	.16080
4.959	18.240	.39127	.01988	.00000	.00177	.00108	.07044	.00500	.18945
4.959	20.190	.45553	.02255	.00039	.00089	.00059	.06897	.00500	.22202
GRADIENT		.02281	.00139	.00008	-.00035	-.00027	-.00223	.00010	-.00212

MSFC 581(0449) ORB 34-0 (BCFM) (WE) (NR)

(R92092) (22 MAY 74)

REFERENCE DATA

SEEF = 2741.6700 SQ. FT ZMRP = 1081.3900 IN.
 LREF = 481.6400 IN. YMRP = .0000 IN.
 DREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -24.640
 AIRCON = 8.700 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 133/ 0 RWL = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.950	21.000	.54736	.02460	.00000	.00235	.00226	.08388	.01688	.48094	.27451
2.950	22.980	.61937	.02362	.00798	.00148	.00216	.08163	.01717	.53833	.31700
2.950	25.070	.69816	.02343	.00147	.00119	.00235	.07878	.01717	.59897	.36723
2.950	27.150	.77292	.02462	.00285	.00071	.00235	.07653	.01727	.63273	.42090
2.950	29.250	.85337	.02542	.00383	.00003	.00206	.07290	.01697	.70895	.48055
2.950	31.340	.93490	.02411	.00441	.00033	.00167	.07054	.01737	.76173	.54657
2.950	33.430	1.02074	.02278	.00461	.00014	.00147	.06789	.01776	.81432	.61908
2.950	35.530	1.10726	.02126	.00559	-.00015	.00147	.06573	.01786	.86288	.69706
2.950	37.620	1.19146	.01951	.00589	.00044	.00107	.06348	.01795	.90478	.77772
2.950	39.740	1.27965	.01782	.00550	.00093	.00147	.06152	.01795	.94451	.86543
2.950	41.710	1.36138	.01545	.00628	.00064	.00185	.05906	.01786	.97689	.95001
GRADIENT		.03939	-.02739	.00030	-.00006	-.00004	-.00121	.00005	.02421	.03270

RUN NO. 134/ 0 RWL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.950	20.600	.48053	.02331	.00157	.00041	.00177	.07123	.00481	.40559	.22938
4.950	22.630	.52695	.02669	.00275	.00012	.00196	.06976	.00461	.45955	.26716
4.950	24.660	.59985	.03027	.00324	.00032	.00206	.06907	.00461	.51616	.31337
4.950	26.710	.67808	.03265	.00363	.00023	.00196	.06829	.00481	.57316	.36497
4.950	28.790	.75594	.03509	.00412	-.00036	.00216	.06760	.00451	.62997	.42335
4.950	30.840	.84150	.03520	.00382	.00023	.00235	.06740	.00441	.68785	.48938
4.950	32.900	.92783	.03453	.00373	.00003	.00177	.06613	.00451	.74299	.55953
4.950	34.960	1.01427	.03621	.00549	.00014	.00235	.06475	.00461	.79411	.63438
4.950	37.010	1.05864	.03572	.00667	.00025	.00156	.06377	.00441	.83875	.71248
4.950	39.090	1.18783	.03483	.00775	-.00023	.00255	.06289	.00471	.86311	.79793
4.950	41.090	1.26867	.03505	.00883	-.00042	.00285	.06132	.00432	.91665	.87917
GRADIENT		.04010	.00051	.00031	-.00002	.00003	-.00045	-.00001	.02562	.03218

NSFC 501(0A49) CR8 34-0 (BCFM) (NE) (VR)

(R92093) (22 MAY 74)

REFERENCE DATA

SEEF = 2741.0000 SQ. FT
 LREF = 401.6485 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = -14.270
 ALLRON = 9.330 BDFLAP = -11.700
 SPBRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 105/ 0 RVL = 4.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.000	-.07064	.01415	-.00373	.00438	.00540	.11273	.01737	-.07064	.11273
2.990	1.960	-.01854	.01557	-.00392	.00419	.00510	.10988	.01737	-.02237	.10920
2.990	4.030	.03787	.01511	-.00363	.00409	.00481	.10586	.01766	.03032	.10831
2.990	6.070	.09634	.01498	-.00304	.00380	.00441	.10194	.01805	.08496	.11155
2.990	8.160	.15737	.01451	-.00324	.00400	.00441	.09847	.01795	.14177	.11979
2.990	10.230	.21682	.01449	-.00334	.00380	.00451	.09497	.01786	.19642	.13196
2.990	12.300	.28344	.01478	-.00206	.00342	.00461	.09222	.01737	.25725	.15050
2.990	14.380	.34957	.01535	-.00029	.00274	.00491	.08899	.01668	.31651	.17307
2.990	16.430	.41619	.01593	.00020	.00236	.00510	.08614	.01658	.37478	.20034
2.990	18.530	.48702	.01464	.00118	.00158	.00520	.08369	.01727	.43512	.23419
2.990	20.510	.55707	.01363	.00216	.00070	.00549	.08016	.01727	.49360	.27020
2.990	GRADIENT	.02693	.00023	.00003	-.00007	-.00015	-.00171	.00007	.02505	-.00109

RUN NO. 106/ 0 RVL = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.020	-.06956	-.01156	-.00334	.00321	.00392	.08840	.00530	-.06956	.08840
4.999	1.950	-.02649	-.00874	-.00343	.00311	.00383	.08565	.00549	-.02934	.08477
4.999	3.980	.01501	-.00585	-.00226	.00243	.00373	.08310	.00549	.00922	.08398
4.999	5.990	.06014	-.00349	-.00177	.00165	.00334	.07859	.00579	.05161	.08447
4.999	8.040	.10831	-.00059	-.00324	.00164	.00314	.07643	.00589	.09654	.09085
4.999	10.080	.15757	.00397	-.00275	.00165	.00314	.07447	.00579	.14206	.10086
4.999	12.120	.21310	.00785	-.00226	.00165	.00314	.07280	.00559	.19308	.11577
4.999	14.160	.26931	.00798	-.00049	.00029	.00343	.07044	.00549	.24390	.13422
4.999	16.180	.33142	.01032	.00000	.00010	.00334	.06807	.00569	.29904	.15865
4.999	18.240	.39490	.01395	.00098	-.00009	.00373	.06670	.00559	.35379	.18798
4.999	20.190	.46024	.01567	.00216	-.00077	.00412	.06681	.00530	.40883	.22163
4.999	GRADIENT	.02135	.00144	.00028	-.00020	-.00005	-.00134	.00005	.01989	-.00111

MSFC 581(0449) ORB 34-0 (BCFM) (WE) (VR)

(R92094) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -14.270
 AIRLON = 9.330 BDFLAP = -11.700
 SPDPRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 132/ 0 RVL = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.010	.56990	.01184	.00128	.00040	.00559	.08094	.01727	.49929	.27854
2.990	22.990	.63743	.01182	.00226	.00061	.00628	.07829	.01717	.55609	.32112
2.990	25.080	.71552	.01113	.00324	.00003	.00677	.07613	.01737	.61574	.37233
2.990	27.160	.79283	.01053	.00412	-.00065	.00697	.07348	.01717	.67176	.42737
2.990	29.260	.87515	.01010	.00549	-.00143	.00726	.07015	.01707	.72916	.48898
2.990	31.350	.95766	.00833	.00530	-.00113	.00755	.06809	.01746	.78233	.55648
2.990	33.440	1.04498	.00634	.00589	-.00103	.00775	.06564	.01795	.83571	.63075
2.990	35.540	1.13249	.00319	.00677	-.00151	.00824	.06279	.01815	.88496	.70944
2.990	37.630	1.22069	-.00034	.00697	-.00151	.00883	.06122	.01825	.92921	.79401
2.990	39.750	1.30890	-.00318	.00687	-.00122	.00903	.05887	.01815	.96855	.88231
2.990	41.720	1.39258	-.00591	.00814	-.00170	.00961	.05592	.01786	1.00200	.96865
GRADIENT		.04007	-.00588	.00030	-.00010	.00018	-.00119	.00005	.02459	.03346

RUN NO. 131/ 0 RVL = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.680	.46887	.01184	.00353	.00023	.00373	.06927	.00500	.41413	.23046
4.959	22.630	.53814	.01420	.00471	.00053	.00451	.06848	.00500	.47024	.27030
4.959	24.680	.61358	.01676	.00441	-.00036	.00500	.06730	.00491	.52941	.31739
4.959	26.730	.69001	.01895	.00549	-.00094	.00540	.06613	.00481	.58651	.36958
4.959	28.790	.77262	.02172	.00589	-.00123	.00648	.06544	.00461	.64547	.42953
4.959	30.850	.86014	.02195	.00559	-.00133	.00697	.06554	.00451	.70473	.49742
4.959	32.910	.94853	.02075	.00608	-.00083	.00736	.06416	.00461	.76144	.56924
4.959	34.960	1.03595	.02022	.00716	-.00122	.00785	.06318	.00461	.81265	.64557
4.959	37.020	1.12611	.01711	.00893	-.00140	.00873	.06201	.00471	.86171	.72759
4.959	39.100	1.21697	.01498	.00932	-.00218	.00971	.06053	.00471	.90615	.81461
4.959	41.040	1.30026	.01555	.01040	-.00188	.01030	.05955	.00461	.94157	.89869
GRADIENT		.04119	.00010	.00031	-.00011	.00031	-.00046	-.00002	.02639	.03303

MSFC 581(OA49) CRB 34-0 (BCFM) (ME) (NR)

(R92095) (22 MAY 74)

REFERENCE DATA

SEEF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = -5.830
 AIRLON = 9.320 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 202/ 0 RVL = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.594	-.040	-.20721	.10782	-.02551	.01107	.03032	.07260	.02521	-.20711	.07280
.594	1.950	-.11096	.10616	-.02610	.01126	.02924	.07142	.02590	-.11332	.06760
.594	4.050	-.00961	.10498	-.02826	.01174	.02855	.06642	.02571	-.01423	.06554
.594	6.140	.09056	.10145	-.02796	.01115	.02875	.05838	.02669	.08379	.06770
.594	8.240	.20299	.09967	-.02934	.01085	.02943	.04906	.02806	.19387	.07770
.594	10.340	.31101	.09452	-.02806	.00968	.02865	.04170	.02669	.29845	.05693
.594	12.440	.42139	.09010	-.02727	.00851	.02777	.03728	.02786	.40343	.12725
.594	14.540	.53461	.08958	-.03012	.00976	.02793	.03689	.02904	.50812	.17042
.594	16.640	.64596	.08914	-.03041	.01074	.02975	.03247	.03218	.60829	.22045
.594	18.760	.78655	.08094	-.03218	.01592	.03640	.03247	.03522	.73426	.28383
.594	20.770	.91145	.07529	-.03807	.01136	.03973	.02845	.03895	.84199	.34986
GRADIENT		.04831	-.00069	-.00067	.00016	-.00043	-.00152	.00012	.04716	-.00177

RUN NO. 201/ 0 RVL = 6.24 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.901	-.090	-.18877	.11305	-.04386	.01750	.02580	.09213	.02992	-.18857	.09252
.901	2.000	-.07015	.10478	-.04287	.01711	.02345	.09165	.02963	-.07329	.08820
.901	4.200	.07309	.08647	-.04425	.01759	.02100	.08840	.02914	.06642	.09350
.901	6.390	.19642	.07519	-.03895	.01528	.01737	.08496	.02914	.18572	.10625
.901	8.560	.31788	.06001	-.03473	.01424	.01540	.08553	.02953	.30149	.13294
.901	10.740	.43649	.04749	-.03120	.01299	.01344	.08575	.03012	.41285	.16561
.901	12.910	.55972	.03370	-.02835	.01233	.01374	.08536	.03169	.52646	.20839
.901	15.090	.67618	.02298	-.02276	.01051	.01590	.08850	.03630	.62987	.26156
.901	17.230	.76664	.03100	-.01815	.00809	.01550	.08801	.03983	.70620	.31121
.901	19.400	.85925	.03954	-.01462	.00724	.01629	.09105	.04405	.78018	.37135
.901	21.420	.90795	.06893	-.00598	.00323	.01442	.09723	.05229	.80313	.41952
GRADIENT		.06107	-.00621	-.00010	.00002	-.00112	-.00087	-.00018	.05947	.00025

MSFC 581 (0A49) CRB 34-0 (BCFM) (WE) (VR)

(R92095) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -5.830
 AILRON = 9.320 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 108/ 0 RNL = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.010	-.05563	.00201	-.00255	.00302	.00461	.10959	.01766	-.05563	.10949
2.990	1.970	-.00288	.00318	-.00275	.00292	.00451	.10684	.01756	-.00461	.10674
2.990	4.030	.05553	.00311	-.00216	.00273	.00461	.10360	.01756	.04807	.10724
2.990	6.080	.11322	.00268	-.00196	.00224	.00481	.09909	.01717	.10204	.11057
2.990	8.170	.17444	.00211	-.00167	.00205	.00491	.09517	.01697	.15914	.11901
2.990	10.240	.23625	.00242	-.00229	.00186	.00540	.09242	.01688	.21604	.13294
2.990	12.310	.30051	.00228	-.00220	.00137	.00599	.08958	.01668	.27451	.15158
2.990	14.380	.36713	.00190	.00069	.00108	.00648	.08761	.01678	.33377	.17611
2.990	16.440	.43492	.00153	.00167	.00070	.00697	.08545	.01697	.39293	.20505
2.990	18.540	.50861	-.00029	.00186	.00002	.00726	.08300	.01737	.45572	.24047
2.990	20.520	.57993	-.00206	.00314	-.00027	.00785	.08055	.01756	.51489	.27883
GRADIENT		.02765	.00027	.00010	-.00007	.00000	-.00149	-.00002	.02579	-.00055

RUN NO. 107/ 0 RNL = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.020	-.05867	-.01883	.00059	.00236	.00334	.08614	.00540	-.05867	.08614
4.999	1.950	-.01903	-.01549	.00049	.00255	.00353	.08408	.00540	-.02198	.08330
4.999	3.980	.02423	-.01141	.00029	.00206	.00373	.08143	.00559	.01844	.08290
4.999	5.990	.06946	-.01156	.00078	.00149	.00363	.07741	.00559	.06093	.08418
4.999	8.050	.11675	-.00674	.00059	.00148	.00392	.07496	.00559	.10508	.09056
4.999	10.080	.16836	-.00602	.00177	.00031	.00392	.07358	.00579	.15286	.10194
4.999	12.120	.22222	-.00119	.00088	.00075	.00432	.07172	.00559	.20221	.11675
4.999	14.160	.28119	-.00044	.00137	.00011	.00481	.07005	.00569	.25558	.13667
4.999	16.180	.34358	-.00080	.00186	-.00038	.00510	.06838	.00540	.31091	.16139
4.999	18.250	.40853	.00265	.00294	-.00066	.00579	.06730	.00530	.36693	.19190
4.999	20.190	.47662	.00490	.00402	-.00095	.00667	.06789	.00540	.42394	.22830
GRADIENT		.02094	.00187	-.00007	-.00008	.00010	-.00119	.00005	.01948	-.00081



NSFC 501 (0449) CRB 34-0 (BCFM) (NE) (NR)

(R92096) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT ZMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -5.830
 ALLORN = 9.320 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONF16 = 1.000

RUN NO. 129/ 0 RNVL = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.020	.58513	-.00323	.00196	-.00047	.00765	.08075	.01766	.51724	.28531
2.990	23.000	.66156	-.00559	.00294	-.00066	.00863	.07839	.01776	.57826	.33073
2.990	25.000	.73917	-.00686	.00304	-.00105	.00942	.07613	.01766	.63713	.38244
2.990	27.150	.81942	-.00800	.00481	-.00202	.00981	.07339	.01737	.69561	.43934
2.990	29.270	.90203	-.00958	.00579	-.00231	.01040	.07113	.01717	.75202	.50311
2.990	31.360	.98876	-.01400	.00520	-.00241	.01060	.06887	.01776	.80843	.57346
2.990	33.460	1.07637	-.01783	.00530	-.00261	.01118	.06652	.01815	.86122	.64910
2.990	35.570	1.16811	-.02245	.00628	-.00279	.01197	.06515	.01844	.91214	.73269
2.990	37.650	1.25837	-.02720	.00648	-.00289	.01256	.06289	.01864	.95776	.81854
2.990	39.770	1.35040	-.03289	.00549	-.00260	.01285	.06122	.01864	.99877	.91596
2.990	41.740	1.43408	-.03939	.00687	-.00328	.01324	.05857	.01844	1.03095	.99847
GRADIENT		.04111	-.00169	.00021	-.00013	.00026	-.00105	.00006	.02509	.03457

RUN NO. 130/ 0 RNVL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	20.690	.48614	.00244	.00402	-.00075	.00697	.06917	.00500	.43031	.23645
4.999	22.640	.55823	.00477	.00510	-.00133	.00785	.06838	.00500	.48977	.27834
4.999	24.690	.63399	.00683	.00549	-.00172	.00873	.06721	.00481	.54795	.32592
4.999	26.720	.71601	.00679	.00657	-.00191	.00991	.06691	.00471	.60946	.38185
4.999	28.800	.80235	.00799	.00687	-.00259	.01079	.06672	.00481	.67088	.44513
4.999	30.860	.88810	.00489	.00667	-.00250	.01138	.06554	.00491	.72867	.51184
4.999	32.920	.97983	.00152	.00648	-.00240	.01197	.06505	.00481	.78714	.58709
4.999	34.980	1.07107	-.00079	.00824	-.00209	.01285	.06446	.00481	.84061	.66696
4.999	37.030	1.16330	-.00454	.00932	-.00287	.01403	.06377	.00491	.89016	.75172
4.999	39.110	1.25631	-.00847	.00903	-.00356	.01491	.06220	.00471	.93539	.84091
4.999	41.090	1.34039	-.01110	.01079	-.00413	.01560	.06102	.00481	.97071	.92636
GRADIENT		.04232	-.00078	.00028	-.00013	.00042	-.00037	-.00001	.02703	.03413

MSFC 581(0449) CRB 34-0 (BCFM) (NE) (VR)

(R92097) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.400
 ALLRON = 8.080 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONF16 = 1.000

RUN NO. 199/ 0 RNVL = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.995	.070	-.02188	.01957	-.03208	.00798	.03944	.06946	.03110	-.02198	.06936
.995	2.060	.07476	.01947	-.03473	.00894	.03964	.06770	.03140	.07231	.07035
.995	4.150	.17150	.01860	-.03453	.00923	.03983	.06299	.03120	.16649	.07525
.995	6.240	.27667	.01660	-.03591	.00932	.04180	.05494	.03081	.26902	.08467
.995	8.340	.38145	.01479	-.03532	.00805	.04209	.04513	.03130	.37076	.09997
.995	10.440	.48996	.01276	-.03326	.00620	.04091	.03836	.03081	.47486	.12666
.995	12.520	.59955	.00638	-.03198	.00621	.03718	.04189	.03189	.57620	.17091
.995	14.640	.71062	.00419	-.03110	.00642	.03414	.04219	.03453	.67687	.22055
.995	16.750	.84493	-.00595	-.03238	.00670	.03444	.04238	.03817	.79676	.28423
.995	18.860	.98974	-.01950	-.03561	.00707	.04003	.03915	.04170	.92391	.35712
.995	20.880	1.09639	-.01996	-.02865	.00585	.03640	.03610	.04719	1.01142	.42462
	GRADIENT	.04739	-.00024	-.00060	.00031	.00010	-.00159	.00002	.04618	.00145

RUN NO. 200/ 0 RNVL = 6.25 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.901	.090	-.03306	.02742	-.03277	.01013	.02894	.06810	.03022	-.03316	.08810
.901	2.140	.09124	.01761	-.03395	.01071	.02875	.06820	.03032	.08781	.09154
.901	4.340	.23939	-.00392	-.03718	.01206	.03238	.06722	.02816	.23213	.10517
.901	6.510	.35035	-.01211	-.03493	.01080	.03297	.06801	.03071	.33819	.12725
.901	8.670	.45209	-.01493	-.02855	.00958	.03189	.09213	.03228	.43296	.15923
.901	10.830	.56052	-.02530	-.02364	.00805	.03179	.09468	.03542	.53225	.19828
.901	12.980	.67078	-.03349	-.02306	.00687	.03336	.09791	.03885	.63164	.24606
.901	15.140	.77684	-.03615	-.02139	.00630	.03306	.10047	.04268	.72366	.29992
.901	17.350	.88408	-.03743	-.01991	.00345	.02875	.10527	.04807	.81245	.36409
.901	19.460	.96315	-.01915	-.01030	.00296	.02816	.10439	.05269	.87328	.41942
.901	21.470	.99720	.01186	.00569	-.00211	.02237	.10508	.05965	.88947	.46298
	GRADIENT	.06354	-.00733	-.00103	.00045	.00081	-.00021	-.00048	.06187	.00400



DATE 16 JUL 74

TABULATED SOURCE DATA - 0449

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NSFC 561 (0449) ORB 34-0 (BCFN) (NR)

(R92097) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 401.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.400
 AIRLON = 8.080 BDFLAP = -11.700
 SPBRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 109/ 0 RNVL = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.020	-.03306	-.01368	-.00137	.00136	.00441	.10949	.01737	-.03306	.10949
2.990	1.980	.02119	-.01214	-.00118	.00146	.00500	.10782	.01746	.01746	.10851
2.990	4.040	.07712	-.01328	-.00098	.00087	.00530	.10498	.01766	.05646	.11018
2.990	6.090	.13500	-.01342	.00050	.00088	.00579	.10154	.01756	.12342	.11528
2.990	8.180	.19642	-.01476	-.00020	.00049	.00638	.09841	.01727	.18043	.12529
2.990	10.250	.26147	-.01691	.00029	.00000	.00687	.09566	.01717	.24027	.14069
2.990	12.320	.32759	-.01827	.00088	-.00038	.00736	.09379	.01688	.30002	.16149
2.990	14.400	.39597	-.01882	.00177	-.00077	.00814	.09154	.01658	.36075	.18720
2.990	16.450	.46720	-.02272	.00235	-.00194	.00863	.08938	.01648	.42266	.21810
2.990	18.560	.54255	-.02519	.00285	-.00243	.00942	.08742	.01638	.48643	.25558
2.990	20.530	.61604	-.02924	.00343	-.00311	.01040	.08585	.01658	.54667	.29659
2.990	GRADIENT	.02741	.00010	.00010	-.00012	.00022	-.00112	.00007	.02550	.00018

RUN NO. 110/ 0 RNVL = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.04484	-.02548	-.00128	.00156	.00314	.08624	.00530	-.04484	.08624
4.959	1.950	-.00648	-.02390	.00039	.00079	.00334	.08418	.00540	-.00932	.08388
4.959	3.990	.03934	-.01920	.00020	.00079	.00402	.08202	.00589	.03355	.08457
4.959	6.000	.08565	-.01943	.00069	.00020	.00461	.07829	.00589	.07702	.08683
4.959	8.050	.13490	-.01883	.00059	.00020	.00500	.07653	.00569	.12283	.09468
4.959	10.090	.18631	-.01579	.00029	-.00039	.00540	.07496	.00559	.17032	.10645
4.959	12.130	.24312	-.01527	.00216	-.00067	.00618	.07476	.00579	.22002	.12411
4.959	14.160	.30277	-.01654	.00128	-.00166	.00687	.07309	.00589	.27559	.14501
4.959	16.190	.36762	-.01705	.00235	-.00194	.00795	.07250	.00540	.33279	.17218
4.959	18.250	.43787	-.01690	.00275	-.00282	.00883	.07280	.00549	.39303	.20633
4.959	20.200	.50772	-.01810	.00383	-.00330	.00991	.07260	.00549	.45131	.24351
4.959	GRADIENT	.02127	.00159	.00037	-.00019	.00022	-.00107	.00015	.01981	-.00041

MSFC 581(0449) ORB 34-0 (BCFM) (NE) (NR)

(R92098) (22 MAY 74)

REFERENCE DATA

SEEF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.400
 AILRON = 8.080 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONF1G = 1.000

RUN NO. 126/ 0 RNVL = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.030	.62369	-.03057	.00304	-.00311	.01069	.08673	.01658	.55099	.30483
2.990	23.010	.70022	-.03324	.00353	-.00409	.01168	.04926	.01688	.61103	.35232
2.990	25.100	.77949	-.03862	.00451	-.00467	.01256	.08428	.01697	.67010	.40706
2.990	27.170	.86465	-.04239	.00579	-.00496	.01364	.08290	.01688	.73132	.46867
2.990	29.290	.95158	-.04661	.00628	-.00584	.01432	.08173	.01707	.78989	.53686
2.990	31.390	1.03978	-.05255	.00608	-.00603	.01501	.08104	.01776	.84552	.61064
2.990	33.480	1.13298	-.05996	.00667	-.00652	.01570	.07996	.01825	.90585	.69178
2.990	35.580	1.22825	-.06647	.00716	-.00730	.01638	.07859	.01854	.95315	.77870
2.990	37.670	1.32028	-.07496	.00667	-.00721	.01678	.07770	.01864	.99739	.86848
2.990	39.770	1.41642	-.08406	.00648	-.00740	.01746	.07712	.01874	1.03919	.96551
2.990	41.770	1.50747	-.09083	.00697	-.00769	.01844	.07633	.01874	1.07343	1.06117
GRADIENT		.04278	-.00291	.00018	-.00021	.00035	-.00050	.00012	.02554	.03658

RUN NO. 127/ 0 RNVL = 4.88 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.690	.51175	-.02404	.00461	-.00241	.00971	.07407	.00520	.45249	.25016
4.959	22.640	.58670	-.02680	.00638	-.00358	.01079	.07398	.00510	.51292	.29414
4.959	24.690	.66558	-.02584	.00677	-.00357	.01226	.07437	.00481	.57365	.34564
4.959	26.730	.75025	-.02816	.00648	-.00426	.01364	.07407	.00471	.63674	.40363
4.959	28.800	.83904	-.03013	.00814	-.00533	.01521	.07496	.00461	.69904	.47005
4.959	30.860	.92842	-.03605	.00854	-.00621	.01619	.07564	.00481	.75810	.54128
4.959	32.920	1.02634	-.03981	.00834	-.00552	.01707	.07633	.00500	.81991	.62192
4.959	34.980	1.12042	-.04507	.00942	-.00610	.01786	.07633	.00491	.87407	.70502
4.959	37.020	1.21334	-.05297	.00844	-.00699	.01874	.07692	.00500	.92234	.79205
4.959	39.100	1.31007	-.05878	.01089	-.00786	.01982	.07594	.00481	.96865	.88535
4.959	41.060	1.40269	-.06581	.01128	-.00884	.02100	.07564	.00471	1.00779	.97846
GRADIENT		.04403	-.00205	.00028	-.00028	.00054	.00013	-.00001	.02770	.03596



DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

MSFC 501(0449) OES 34-0 (BCFM) (NE) (VR)

(R92099) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1061.3900 IN. BETA = .000 ELEVTR = -14.390
 LREF = 481.6400 IN. YMRP = .0000 IN. AIRRON = 13.670 BDFLAP = -11.700
 DREF = 936.7000 IN. ZMRP = .0000 IN. SPORRK = 25.550 RUCCER = .000
 SCALE = .0540 CONFIC = 1.000

PARAMETRIC DATA

RUN NO. 112/ 0 RNVL = 4.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.000	-.06554	.00921	-.00500	.00496	.00687	.11381	.01737	-.06554	.11381
2.990	1.980	-.01472	.01098	-.00432	.00487	.00638	.11096	.01727	-.01854	.11047
2.990	4.050	.04297	.01084	-.00412	.00448	.00589	.10694	.01776	.03532	.10969
2.990	6.070	.10135	.01148	-.00343	.00429	.00579	.10292	.01795	.08987	.11302
2.990	8.180	.16286	.00985	-.00402	.00399	.00569	.09890	.01786	.14717	.12097
2.990	10.230	.22389	.00996	-.00304	.00410	.00559	.09615	.01786	.20319	.13441
2.990	12.310	.29090	.01006	-.00245	.00351	.00579	.09321	.01756	.26431	.15305
2.990	14.380	.35428	.01040	-.00069	.00255	.00589	.08977	.01678	.32092	.17503
2.990	16.440	.42296	.01033	.00020	.00226	.00608	.08722	.01648	.38096	.20333
2.990	18.540	.49418	.00944	.00118	.00168	.00638	.08457	.01727	.44160	.23733
2.990	20.510	.56237	.00753	.00167	.00070	.00667	.08143	.01717	.49821	.27343
GRADIENT		.02693	.00040	.00022	-.00012	-.00024	-.00171	.00010	.02554	-.00102

RUN NO. 111/ 0 RNVL = 4.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.020	-.06142	-.01182	-.00275	.00410	.00559	.09056	.00520	-.06142	.09056
4.999	1.950	-.02394	-.01073	-.00285	.00321	.00500	.08742	.00540	-.02688	.08653
4.999	3.980	.01933	-.00869	-.00167	.00264	.00441	.08428	.00569	.01344	.08545
4.999	5.990	.06358	-.00517	.00010	.00236	.00451	.08035	.00559	.05484	.08653
4.999	8.050	.11243	-.00333	-.00265	.00194	.00412	.07731	.00559	.10347	.09222
4.999	10.080	.16502	-.00075	-.00226	.00175	.00392	.07486	.00540	.14932	.10262
4.999	12.120	.22104	.00208	-.00206	.00136	.00383	.07319	.00559	.20073	.11793
4.999	14.180	.27932	.00494	.00010	.00128	.00412	.07221	.00559	.25313	.13834
4.999	16.180	.33858	.00570	.00186	.00011	.00422	.07025	.00549	.30552	.16178
4.999	18.250	.40539	.00699	.00294	-.00027	.00451	.06897	.00540	.36340	.19249
4.999	20.190	.47044	.01090	.00343	-.00027	.00491	.06760	.00500	.41815	.22585
GRADIENT		.02040	.00074	.00028	-.00037	-.00030	-.00159	.00012	.01891	-.00128

(R92100) (22 MAY 74)

MSFC 5810445 JEB 34-0 (BCFM) (WE) (WR)

REFERENCE DATA

SREF = 2741.8500 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7550 IN.
 SCALE = .0040

WREF = 1081.3900 IN.
 YREF = .0000 IN.
 ZREF = .0000 IN.

PARAMETRIC DATA

DETA = .000 ELEVTR = -14.390
 ALLRON = 13.670 BDPLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 125/ 0 RN% = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.010	.56934	.00853	.1128	.00099	.00677	.08202	.01737	.50203	.28079
2.990	22.990	.64145	.00715	.1265	.00071	.00755	.08006	.01756	.55923	.32435
2.990	25.080	.71974	.00588	.1332	.00033	.00805	.07790	.01786	.61878	.37567
2.990	27.150	.79882	.00579	.1431	-.00055	.00873	.07525	.01766	.67647	.43149
2.990	29.280	.88251	.00461	.1537	-.00103	.00903	.07299	.01737	.73416	.49507
2.990	31.350	.96442	.00176	.1559	-.00094	.00942	.07044	.01786	.78685	.56198
2.990	33.450	1.05551	.00059	.1557	-.00093	.00981	.06809	.01815	.84140	.63752
2.990	35.540	1.13916	-.00435	.1533	-.00151	.01060	.06573	.01835	.88859	.71572
2.990	37.620	1.22943	-.00813	.1485	-.00180	.01089	.06407	.01835	.93460	.80127
2.990	39.730	1.31665	-.01186	.1433	-.00131	.01118	.06181	.01844	.97296	.88918
2.990	41.720	1.40073	-.01439	.1332	-.00140	.01207	.06044	.01835	1.00514	.97738
GRADIENT		.04033	-.00111	.1134	-.00012	.00024	-.00108	.00005	.02466	.03374

RUN NO. 126/ 0 RN% = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.680	.47338	.01094	.1225	.00061	.00540	.06946	.00510	.41834	.23223
4.959	22.650	.54461	.01353	.1283	.00013	.00628	.06966	.00520	.47584	.27393
4.959	24.690	.62075	.01639	.1359	-.00035	.00736	.06868	.00491	.53529	.32171
4.959	26.720	.70188	.01798	.1467	-.00083	.00775	.06779	.00461	.59642	.37625
4.959	28.820	.78489	.01766	.1532	-.00132	.00844	.06730	.00461	.65518	.43738
4.959	30.850	.87044	.01883	.1577	-.00122	.00932	.06681	.00491	.71287	.50380
4.959	32.910	.95756	.01674	.1557	-.00112	.00971	.06534	.00471	.76831	.57522
4.959	34.970	1.03106	.01726	.15765	-.00092	.01050	.06475	.00471	.82403	.65558
4.959	37.010	1.14005	.01317	.15314	-.00160	.01118	.06367	.00471	.87191	.73720
4.959	39.110	1.23041	.01123	.14981	-.00227	.01256	.06269	.00471	.91508	.82492
4.959	41.040	1.31557	.00921	.14538	-.00265	.01364	.06152	.00441	.95167	.91037
GRADIENT		.04165	-.00013	.10034	-.00013	.00038	-.00040	-.00003	.02664	.03346

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MSFC 501 (0449) CRB 34-0 (BCFM) (NE) (VR)

(R92101) (22 MAY 74)

REFERENCE DATA

SEEF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 DEEF = 936.7200 IN.
 SCALE = .0040

WARP = 1081.3900 IN.
 YWAP = .0000 IN.
 ZWAP = .0000 IN.

BETA = .000 ELEVTR = -4.960
 AIRRON = 14.230 BDFLAP = -11.700
 SPBRK = 25.550 RUDDER = .000
 CONF16 = 1.000

PARAMETRIC DATA

RUN NO. 113/ 0 RNVL = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.010	-.05092	-.00052	-.00285	.00351	.00657	.11214	.01746	-.05102	.11214
2.990	1.970	.00314	-.00130	-.00285	.00302	.00638	.10920	.01727	-.05059	.10930
2.990	4.040	.00093	-.00106	-.00216	.00244	.00618	.10616	.01766	.05327	.11018
2.990	6.080	.11881	-.00158	-.00196	.00283	.00657	.10213	.01746	.10733	.11410
2.990	8.170	.18033	-.00428	-.00177	.00224	.00657	.09841	.01727	.16453	.12303
2.990	10.240	.24400	-.00462	-.00157	.00224	.00687	.09585	.01688	.22310	.13775
2.990	12.310	.30974	-.00395	.00010	.00167	.00736	.09271	.01658	.28285	.15668
2.990	14.390	.37792	-.00596	.00147	.00090	.00785	.09026	.01638	.34358	.18141
2.990	16.440	.44680	-.00795	.00167	.00050	.00824	.08859	.01638	.40333	.21153
2.990	18.550	.52018	-.00833	.00334	-.00027	.00903	.08653	.01687	.46563	.24753
2.990	20.520	.59112	-.01203	.00353	-.00085	.00942	.08428	.01707	.52401	.28629
2.990	GRADIENT	.52775	-.00013	.00012	-.00027	-.00010	-.00148	.00005	.02588	-.00048

RUN NO. 114/ 0 RNVL = 4.90 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.020	-.05651	-.01889	-.00275	.00233	.00441	.08771	.00530	-.05651	.08771
4.999	1.990	-.01531	-.01649	-.00285	.00253	.00432	.08545	.00549	-.01815	.08487
4.999	3.990	.02914	-.01307	-.00167	.00214	.00451	.08310	.00530	.02335	.08487
4.999	5.990	.07998	-.01304	.00010	.00128	.00451	.07849	.00589	.06534	.08575
4.999	8.090	.12136	-.00586	.00000	.00157	.00491	.07672	.00540	.10949	.09291
4.999	10.080	.17454	-.00824	-.00010	.00098	.00422	.07447	.00589	.15874	.10390
4.999	12.120	.23164	-.00636	.00020	.00079	.00310	.07378	.00549	.21094	.12077
4.999	14.180	.29021	-.00601	.00137	.00050	.00579	.07290	.00559	.26353	.14177
4.999	16.220	.35271	-.00646	.00186	-.00028	.00608	.07084	.00559	.31886	.16649
4.999	18.290	.42060	-.00421	.00294	-.00037	.00716	.07054	.00510	.37733	.19877
4.999	20.190	.48751	-.00566	.00334	-.00076	.00755	.07015	.00520	.43326	.23419
4.999	GRADIENT	.02163	.00147	.00028	-.00005	.00003	-.00116	-.00000	.02517	-.00071

REFERENCE DATA

PARAMETRIC DATA

SREF = 2741.0000 SQ. FT
LREF = 481.6480 IN.
BREF = 936.7000 IN.
SCALE = .0040

BETA = .000
ALTRON = 14.230
SPDRK = 25.550
CONFIG = 1.000

ELEVTR = -4.980
BDFLAP = -31.700
RUDDER = .000

RUN NO. 124/ 0 RN/L = 4.07 GRADIENT INTERVAL = -5.00/ 5.00										
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.020	.59357	-.00987	.00304	-.00056	.01060	.06447	-.01737	.52372	.29178
2.990	23.000	.66990	-.01242	.00353	-.00125	.01138	.08251	.01737	.59435	.33780
2.990	25.090	.74878	-.01454	.00491	-.00173	.01236	.08094	.01756	.64370	.39087
2.990	27.180	.82904	-.01771	.00618	-.00279	.01305	.07839	.01727	.70179	.44817
2.990	29.270	.91557	-.01943	.00716	-.00328	.01383	.07712	-.01737	.76085	.51498
2.990	31.360	1.00023	-.02406	.00765	-.00337	.01452	.07555	.01795	.81530	.58552
2.990	33.460	1.09129	-.02948	.00746	-.00367	.01531	.07398	.01835	.86956	.65352
2.990	35.560	1.18223	-.03490	.00834	-.00395	.01648	.07231	.01854	.91969	.74643
2.990	37.650	1.27348	-.03982	.00854	-.00415	.01727	.07054	-.01854	.96492	.83394
2.990	39.770	1.36541	-.04600	.00834	-.00405	.01776	.06887	.01844	1.00524	.92656
2.990	41.740	1.45224	-.05332	.00893	-.00473	.01844	.06721	-.01844	1.03870	1.01711
GRADIENT		.04156	-.00206	.00028	-.00018	.00038	-.00082	.00007	.02514	.03513

RUN NO. 123/ 0 RN/L = 4.89 GRADIENT INTERVAL = -5.00/ 5.00										
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	20.680	.48310	-.00613	.00402	.00003	.00834	.07182	.00549	.43129	.23959
4.999	22.630	.56119	-.00487	.00510	-.00074	.00971	.07142	.00530	.49046	.28197
4.999	24.690	.63958	-.00507	.00608	-.00201	.01089	.07084	.00530	.55148	.33161
4.999	26.720	.72013	-.00359	.00775	-.00239	.01236	.07093	.00510	.61133	.38724
4.999	28.800	.80682	-.00450	.00814	-.00258	.01374	.07074	.00510	.67471	.45170
4.999	30.860	.89820	-.00564	.00726	-.00298	.01491	.07025	.00530	.73495	.52107
4.999	32.910	.98925	-.01158	.00844	-.00219	.01550	.07044	.00520	.79215	.59681
4.999	34.970	1.08098	-.01504	.01079	-.00266	.01668	.07035	.00530	.84532	.67736
4.999	37.030	1.17733	-.02202	.00981	-.00394	.01766	.07025	.00510	.89742	.76526
4.999	39.110	1.26877	-.02472	.01148	-.00412	.01933	.07054	.00520	.93990	.85523
4.999	41.050	1.35785	-.03045	.01256	-.00490	.02041	.07005	.00500	.97787	.94471
GRADIENT		.04301	-.00125	.00038	-.00020	.00057	-.00007	-.00001	.02730	.03481



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N8FC 581(0449) CEB 34-0 (C/FM) (NE) (VR)

082103) (22 MAY 74)

REFERENCE DATA

REF = 2741.0000 SA. FT WREF = 1001.3900 IN.
 LREF = 401.6400 IN. YREF = .0000 IN.
 BREF = 936.7000 IN. ZREF = .0000 IN.
 SCALE = .5000

PARAMETRIC DATA

BETA = .000 ELEVTR = 2.920
 AILRON = 12.190 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 281/ 0 RV/L = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.596	.000	-.02276	.01859	-.03983	.01056	.05043	.07976	.02934	-.02286	.07976
.596	2.593	.06475	.02028	-.04229	.01132	.05092	.07721	.02904	.06191	.07947
.596	4.142	.15649	.02368	-.04474	.01239	.05200	.07241	.02855	.15089	.08359
.596	6.210	.25332	.02252	-.04700	.01237	.05207	.06407	.02845	.24488	.09114
.596	8.330	.36193	.02000	-.04641	.01188	.05475	.05455	.02845	.35026	.10645
.596	10.420	.46642	.01925	-.04709	.01119	.05557	.04974	.02826	.44964	.13333
.596	12.510	.55903	.02111	-.04913	.00964	.05102	.04637	.02963	.53519	.16836
.596	14.600	.66225	.02025	-.04366	.01033	.04768	.05023	.03257	.62810	.21565
.596	16.720	.79980	.00967	-.04641	.00992	.04906	.04837	.03322	.75182	.27648
.596	18.840	.94020	-.00172	-.04788	.01010	.05219	.04366	.03895	.87564	.34506
.596	20.850	1.04272	.01640	-.03512	.00727	.04493	.03924	.04278	.96041	.40804
GRADIENT		.04393	.00125	-.00120	.00045	.00099	-.00181	-.00019	.04259	.00095

RUN NO. 280/ 0 RV/L = 6.25 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.899	.020	-.05812	.03489	-.04032	.01233	.04199	.09762	.02875	-.05622	.09752
.899	2.110	.07113	.02261	-.04150	.01251	.04072	.09684	.02786	.06750	.09939
.899	4.330	.21316	.00179	-.04621	.01404	.04258	.09389	.02884	.20741	.10988
.899	6.500	.34663	-.01371	-.04700	.01374	.04346	.09350	.02924	.33377	.13216
.899	8.640	.43649	-.01295	-.03708	.01107	.03885	.09497	.02983	.41717	.15953
.899	10.820	.53374	-.02433	-.03051	.00897	.03640	.09880	.03414	.52528	.20113
.899	12.980	.66401	-.03215	-.02571	.00813	.03660	.10017	.03748	.62447	.24685
.899	15.140	.75830	-.02793	-.02541	.00833	.03709	.10341	.04140	.70493	.29796
.899	17.300	.85121	-.02258	-.01746	.00623	.03640	.10822	.04552	.78047	.35653
.899	19.480	.93531	-.00744	-.01207	.00451	.03483	.10880	.05043	.84934	.41560
.899	21.480	.98111	.02079	-.00094	-.00094	.03061	.11057	.05779	.87250	.46191
GRADIENT		.06296	-.00770	-.00137	.00040	.00014	-.00087	.00003	.06118	.00289

MSFC 561 (Q49) ORB S4-D (BCFM) (WE) (NR)

(R92103) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 401.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 2.920
 ALLCON = 12.190 BDELAP = -11.700
 SPOBRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 116/ 0 RNVL = 4.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.000	-.03630	-.01025	-.00196	.00146	.00637	.11077	.01727	-.03640	.11077
2.990	1.900	-.01669	-.01037	-.00120	.00146	.00706	.10930	.01737	.01315	.10979
2.990	4.040	.07329	-.01092	.00000	.00108	.00746	.10635	.01756	.06554	.11126
2.990	6.090	.13157	-.01047	.00059	.00069	.00805	.10282	.01727	.11989	.11616
2.990	8.170	.19308	-.01326	.00029	.00010	.00873	.09948	.01697	.17699	.12588
2.990	10.240	.25489	-.01450	.00000	.00001	.00932	.09713	.01688	.23350	.14089
2.990	12.320	.32445	-.01455	.00186	-.00067	.01030	.09517	.01678	.29669	.16228
2.990	14.390	.39244	-.01772	.00275	-.00165	.01118	.09330	.01638	.35693	.18798
2.990	16.450	.46259	-.02047	.00373	-.00242	.01197	.09183	.01638	.41766	.21918
2.990	18.570	.53863	-.02361	.00493	-.00321	.01305	.09026	.01678	.48182	.25725
2.990	20.530	.61182	-.02670	.00471	-.00398	.01393	.08889	.01688	.54157	.29777
GRADIENT		.02726	-.00017	.00049	-.00009	.00022	-.00110	.00007	.02536	.00013

RUN NO. 115/ 0 RNVL = 4.90 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.030	-.04680	-.02550	-.00265	.00184	.00412	.08722	.00520	-.04680	.08712
4.999	1.930	-.00834	-.02364	-.00275	.00194	.00402	.08467	.00540	-.01128	.08428
4.999	3.990	.03915	-.02094	-.00167	.00126	.00500	.08369	.00569	.03326	.08624
4.999	6.000	.08555	-.02194	.00000	.00000	.00559	.07996	.00569	.07572	.08840
4.999	8.030	.13618	-.02007	.00049	.00020	.00608	.07819	.00569	.12391	.09644
4.999	10.090	.18720	-.01839	.00090	-.00029	.00687	.07702	.00589	.17081	.10861
4.999	12.130	.24645	-.01715	.00137	-.00126	.00765	.07545	.00559	.22507	.12548
4.999	14.180	.30571	-.01966	.00186	-.00214	.00834	.07535	.00579	.27795	.14785
4.999	16.190	.37207	-.01866	.00353	-.00223	.01020	.07476	.00540	.33456	.17493
4.999	18.250	.44081	-.02033	.00324	-.00341	.01118	.07447	.00540	.39329	.20888
4.999	20.200	.50743	-.02043	.00500	-.00418	.01226	.07417	.00500	.45062	.24488
GRADIENT		.02167	.00115	.00025	-.00015	.00023	-.00089	.00012	.02018	-.00021

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TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) CRB 34-0 (BCFN) (WE) (NR)

(R92104) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 AILRON = 12.190
 SPBRK = 25.550
 CONFIG = 1.000

ELEVTR = 2.920
 BDFLAP = -11.700
 RUDDER = .000

PARAMETRIC DATA

RUN NO. 121/ 0 RV/L = 4.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.030	.61771	-.02766	.00353	-.00419	.01413	.08899	.01717	.54461	.30473
2.990	23.010	.69580	-.03135	.00431	-.00487	.01521	.08771	.01717	.60613	.35281
2.990	25.100	.77753	-.03662	.00500	-.00604	.01619	.08653	.01727	.66735	.40824
2.990	27.170	.86190	-.04059	.00628	-.00682	.01737	.08614	.01717	.72739	.47034
2.990	29.280	.94687	-.04330	.00716	-.00779	.01844	.08487	.01756	.78430	.53725
2.990	31.380	1.03683	-.04931	.00697	-.00760	.01943	.08408	.01805	.84130	.61172
2.990	33.480	1.13043	-.05671	.00706	-.00858	.02021	.08330	.01844	.89683	.69315
2.990	35.570	1.22236	-.06269	.00735	-.00877	.02139	.08251	.01864	.94618	.77831
2.990	37.670	1.31557	-.06875	.00736	-.00897	.02217	.08163	.01884	.99121	.86867
2.990	39.790	1.40877	-.07712	.00716	-.00936	.02286	.08025	.01903	1.03105	.96335
2.990	41.760	1.49668	-.08491	.00814	-.00935	.02414	.07908	.01913	1.06352	1.05997
2.990	GRADIENT	.04256	-.00272	.00019	-.00025	.00047	-.00045	.00011	.02534	.03640

RUN NO. 122/ 0 RV/L = 4.89 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.700	.52126	-.02137	.00363	-.00389	.01285	.07653	.00559	.46053	.25587
4.959	22.640	.59220	-.02401	.00471	-.00565	.01423	.07594	.00549	.51734	.28416
4.959	24.700	.67147	-.02390	.00510	-.00575	.01570	.07574	.00530	.57836	.34937
4.959	26.730	.75231	-.02648	.00608	-.00633	.01737	.07555	.00481	.63792	.40588
4.959	28.810	.84297	-.03006	.00716	-.00701	.01854	.07653	.00500	.70169	.47338
4.959	30.860	.95019	-.03467	.00687	-.00711	.01982	.07741	.00510	.75869	.54363
4.959	32.920	1.02222	-.03977	.00736	-.00749	.02080	.07800	.00500	.81559	.62114
4.959	34.980	1.11640	-.04465	.00706	-.00818	.02188	.07780	.00527	.87005	.70385
4.959	37.020	1.21010	-.05235	.00814	-.00876	.02306	.07878	.00510	.91861	.79156
4.959	39.120	1.30546	-.05885	.00922	-.00964	.02443	.07947	.00471	.96256	.88535
4.959	41.050	1.39347	-.06364	.00893	-.01013	.02531	.07927	.00481	.99857	.97502
4.959	GRADIENT	.04323	-.00214	.00025	-.00027	.00061	.00019	-.00003	.02695	.03559

MSFC 581 (0449) ORB 34-0 (BCFM) (NE) (VR)

(R92103) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 12.040
 AIRLON = 3.080 BDPLAP = 16.300
 SPDPRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 198/ 0 RN/L = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.594	.180	.20250	-.0180	-.01177	.00167	.02021	.07976	.03610	.20201	.08045
.594	2.160	.29011	-.10166	-.01138	.00177	.01884	.07761	.03620	.28697	.08850
.594	4.250	.39372	-.10416	-.01109	.00167	.01795	.07133	.03581	.38734	.10037
.594	6.350	.50046	-.10894	-.01236	.00176	.01874	.06426	.03610	.49026	.11930
.594	8.450	.61721	-.11317	-.01217	.00108	.01884	.05573	.03699	.60230	.14589
.594	10.550	.72867	-.11768	-.00952	-.00018	.01638	.05004	.03689	.70718	.18298
.594	12.650	.83021	-.12186	-.01199	.00079	.01678	.05749	.04003	.79744	.23762
.594	14.750	.94471	-.12467	-.00814	.00072	.01246	.05808	.04287	.89879	.29678
.594	16.870	1.08442	-.13821	-.01393	.00126	.01776	.05867	.04817	1.02065	.37086
.594	18.970	1.24159	-.15291	-.01442	.00214	.02119	.05808	.05269	1.15516	.45877
.594	20.990	1.32449	-.14047	-.00196	-.00031	.01393	.05475	.05622	1.21687	.52578
GRADIENT		.04705	-.00059	.00017	.00000	-.00055	-.00208	-.00007	.04556	.00490

RUN NO. 197/ 0 RN/L = 6.28 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.903	.180	.16463	-.09699	-.00157	-.00080	.01266	.09448	.03777	.16434	.09507
.903	2.270	.28050	-.10491	-.00657	.00093	.01511	.09536	.03807	.27648	.10645
.903	4.460	.41864	-.12369	-.01138	.00295	.02080	.09615	.03846	.40981	.12843
.903	6.640	.54177	-.14049	-.01197	.00226	.02119	.09831	.03924	.52676	.16041
.903	8.800	.64655	-.15197	-.00677	.00053	.01972	.10380	.04317	.62300	.20182
.903	10.950	.75133	-.16035	-.00402	-.00062	.01835	.10753	.04552	.71719	.24842
.903	13.120	.87907	-.18007	-.00137	-.00188	.01688	.11214	.04758	.83561	.30885
.903	15.300	.99857	-.18958	-.00039	-.00187	.01383	.11705	.05308	.93225	.37655
.903	17.460	1.09815	-.18683	.00598	-.00329	.01089	.11685	.05838	1.01240	.44111
.903	19.640	1.19440	-.18500	.00844	-.00415	.00854	.12489	.06838	1.08285	.51910
.903	21.820	1.22903	-.14886	.02374	-.00864	.00275	.12558	.07976	1.09319	.56983
GRADIENT		.05938	-.00626	-.00229	.00088	.00191	.00039	.00016	.05738	.00781

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) CRB 34-0 (BCFM) (WE) (VR)

(R92105) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SA. FT XMRP = 1081.3900 IN.
 LREF = 481.6485 IN. YMRP = .0000 IN.
 BRP = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 12.040
 ALLCON = 3.080 BDFLAP = 16.300
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 117/ 0 RV/L = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.030	-.00824	-.03253	-.00039	.00127	.00226	.11283	.01766	-.00824	.11283
2.990	1.990	-.04798	-.03425	.00059	.00108	.00255	.11194	.01786	.04405	.11361
2.990	4.090	.10380	-.03577	.00039	.00069	.00275	.10910	.01795	.09576	.11616
2.990	6.190	.16502	-.03866	.00020	.00059	.00304	.10586	.01776	.12274	.12274
2.990	8.190	.23085	-.04254	.00078	.00030	.00334	.10360	.01766	.21369	.13549
2.990	10.260	.29747	-.04728	.00108	.00021	.00334	.10223	.01756	.27442	.15354
2.990	12.330	.36860	-.05224	.00098	-.00019	.00353	.10125	.01766	.33848	.17768
2.990	14.410	.43787	-.05742	.00147	-.00058	.00402	.10027	.01746	.39911	.20613
2.990	16.470	.51567	-.06401	.00245	-.00135	.00432	.10017	.01717	.46603	.24233
2.990	18.570	.59504	-.07126	.00343	-.00174	.00491	.09968	.01717	.53225	.28403
2.990	20.550	.67422	-.08005	.00334	-.00262	.00530	.09957	.01727	.59622	.33034
GRADIENT		.02786	-.02081	.00019	-.00015	.00012	-.00093	.00007	.02586	.00083

RUN NO. 118/ 0 RV/L = 4.90 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.03571	-.03268	.00069	.00177	.00206	.08801	.00569	-.03571	.08801
4.959	1.960	.00755	-.03247	.00059	.00128	.00226	.08653	.00559	.00451	.08673
4.959	3.990	.05465	-.03288	-.00147	.00067	.00245	.08438	.00579	.04856	.08801
4.959	6.000	.10400	-.03238	.00020	.00000	.00245	.08163	.00589	.09487	.09213
4.959	8.050	.15492	-.03544	.00010	-.00029	.00314	.08045	.00598	.14216	.10135
4.959	10.090	.21162	-.03685	.00059	.00000	.00353	.08045	.00608	.19426	.11536
4.959	12.130	.27098	-.04094	.00049	-.00078	.00392	.07947	.00579	.24822	.13461
4.959	14.170	.33907	-.04381	.00226	-.00106	.00441	.08016	.00589	.30915	.16071
4.959	16.200	.40912	-.04956	.00275	-.00135	.00510	.08045	.00579	.37037	.19141
4.959	18.260	.48437	-.05455	.00324	-.00243	.00579	.08163	.00579	.43434	.22938
4.959	20.210	.56080	-.05942	.00432	-.00320	.00648	.08300	.00598	.49752	.27167
GRADIENT		.02282	-.02005	-.00055	-.00028	.00010	-.00092	.00003	.02129	.00001

MSFC 581 (0A49) ORB 34-0 (BCFM) (WE) (NR)

(R92106) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 12.040
 AILRON = 3.580 BDFLAP = 16.300
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 120/ 0 RV/L = 4.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.040	.67637	-.08185	.00255	-.00292	.00510	.09997	.01795	.59553	.33632
2.990	23.020	.75928	-.09127	.00353	-.00340	.00579	.10076	.01795	.65930	.38979
2.990	25.110	.84611	-.10071	.00412	-.00409	.00618	.10174	.01805	.72288	.45121
2.990	27.190	.93774	-.11115	.00510	-.00496	.00648	.10302	.01835	.78704	.52008
2.990	29.300	1.02987	-.12051	.00608	-.00535	.00697	.10429	.01864	.84699	.59504
2.990	31.390	1.12396	-.13225	.00628	-.00544	.00697	.10557	.01913	.90429	.67569
2.990	33.490	1.22472	-.14535	.00726	-.00602	.00716	.10704	.01933	.96217	.76526
2.990	35.590	1.32194	-.15859	.00746	-.00661	.00746	.10851	.01952	1.01172	.85768
2.990	37.670	1.42113	-.17210	.00785	-.00592	.00687	.11273	.01943	1.05587	.95786
2.990	39.810	1.52248	-.18586	.00765	-.00563	.00687	.11361	.01913	1.09668	1.06215
2.990	41.780	1.61873	-.19970	.00863	-.00650	.00755	.11351	.01894	1.13122	1.16330
	GRADIENT	.04554	-.00567	.00028	-.00516	.00009	.00072	.00007	.02610	.04004

RUN NO. 119/ 0 RV/L = 4.90 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.690	.55550	-.06492	.00451	-.00202	.00559	.08339	.00559	.49006	.27442
4.959	22.640	.63693	-.07243	.00555	-.00349	.00638	.08516	.00579	.55501	.32386
4.959	24.700	.72102	-.07718	.00608	-.00368	.00706	.08702	.00589	.61859	.38038
4.959	26.730	.81167	-.08724	.00657	-.00397	.00736	.08918	.00608	.68471	.44483
4.959	28.810	.90556	-.09715	.00834	-.00503	.00795	.09173	.00618	.74927	.51685
4.959	30.870	1.00250	-.10818	.00942	-.00561	.00903	.09360	.00628	.81236	.59475
4.959	32.930	1.10218	-.11645	.00932	-.00493	.00883	.09723	.00618	.87220	.68079
4.959	34.990	1.20333	-.13089	.00922	-.00571	.00865	.09919	.00618	.92891	.77135
4.959	37.050	1.30330	-.14119	.00971	-.00591	.00932	.10223	.00598	.97846	.86691
4.959	39.130	1.40455	-.15253	.01079	-.00629	.01001	.10459	.00589	1.02339	.96757
4.959	41.060	1.51760	-.16899	.01128	-.00756	.01020	.10753	.00579	1.06068	1.06695
	GRADIENT	.04667	-.00505	.00032	-.00022	.00021	.00120	.00001	.02846	.03909

MSFC 581 (0A49) CRB 34-0 (BCFM) (NE) (VR)

(R92107) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7500 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 13.130
 AILRON = -.650 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 153/ 0 RNL = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.030	-.01658	-.02164	-.00029	.00186	.00020	.11057	.01737	-.01658	.11057
2.990	1.990	.03689	-.02204	.00069	.00177	.00000	.10939	.01746	.03306	.11067
2.990	4.090	.09360	-.02365	-.00098	.00176	.00029	.10763	.01756	.08575	.11400
2.990	6.190	.15462	-.02539	-.00069	.00186	.00029	.10449	.01756	.14255	.12038
2.990	8.190	.21859	-.03036	.00020	.00147	.00029	.10174	.01737	.20181	.13176
2.990	10.260	.28354	-.03300	.00010	.00147	.00020	.09988	.01707	.26117	.14883
2.990	12.330	.35310	-.03392	.00000	.00147	.00029	.09850	.01658	.32386	.17169
2.990	14.410	.42403	-.03888	.00010	.00088	.00020	.09693	.01629	.38656	.19946
2.990	16.470	.49664	-.04391	.00069	.00050	.00020	.09576	.01589	.44905	.23262
2.990	18.570	.57375	-.04984	.00137	.00011	.00039	.09428	.01599	.51381	.27216
2.990	20.590	.64900	-.05463	.00196	-.00008	.00049	.09360	.01619	.57483	.31552
GRADIENT		.02741	-.00050	-.00018	-.00003	.00003	-.00073	.00005	.02546	.00086

RUN NO. 154/ 0 RNL = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.03571	-.03210	.00216	.00198	.00039	.08673	.00510	-.03571	.08673
4.959	1.980	.00598	-.03172	.00265	.00120	.00069	.08447	.00510	.00304	.08457
4.959	3.990	.04886	-.03036	.00186	.00149	.00078	.08330	.00530	.04287	.08644
4.959	6.000	.09360	-.03081	.00235	.00110	.00059	.07976	.00520	.08477	.08908
4.959	8.090	.14560	-.02949	.00226	.00169	.00078	.07888	.00520	.13314	.09850
4.959	10.090	.20162	-.03044	.00216	.00129	.00069	.07829	.00530	.18474	.11243
4.959	12.130	.25803	-.03234	.00196	.00051	.00020	.07712	.00530	.23605	.12960
4.959	14.170	.32455	-.03341	.00255	.00071	.00029	.07702	.00520	.29580	.15423
4.959	16.190	.39136	-.03611	.00235	.00071	.00039	.07800	.00530	.35408	.18406
4.959	18.260	.46279	-.03865	.00353	.00032	.00069	.07868	.00540	.41481	.21967
4.959	20.200	.53362	-.04371	.00275	-.00037	.00039	.07868	.00549	.47358	.25813
GRADIENT		.02135	.00044	-.00008	-.00012	.00010	-.00086	.00005	.01984	-.00007

MSFC 581 (0449) ORB 34-0 (BCFM) (AE) (VR)

(R92108) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BRFF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 13.130
AILRON = -.650 BOFLAP = -11.700
SPDRK = 25.550 RUDDER = .000
CONFIG = 1.000

RUN NO. 146/ 0 RV/L = 4.15 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.040	.6558	-.05646	.00118	-.00028	.00049	.09301	.01619	.57836	.32229
2.990	23.030	.73711	-.06232	.00177	-.00028	.00088	.09281	.01638	.64204	.37380
2.990	25.120	.82040	-.06824	.00235	-.00116	.00108	.09232	.01658	.70355	.43198
2.990	27.190	.90694	-.07508	.00373	-.00154	.00118	.09203	.01648	.76458	.49634
2.990	29.300	.99435	-.08103	.00492	-.00153	.00108	.09232	.01688	.82197	.56718
2.990	31.400	1.08775	-.08999	.00422	-.00173	.00088	.09262	.01756	.88015	.64576
2.990	33.500	1.18371	-.09967	.00481	-.00202	.00069	.09271	.01805	.93588	.73063
2.990	35.600	1.28348	-.11065	.00549	-.00231	.00078	.09428	.01844	.98866	.82384
2.990	37.670	1.37983	-.12072	.00590	-.00133	.00029	.09507	.01884	1.03399	.91871
2.990	39.790	1.47686	-.13194	.00402	-.00134	-.00010	.09448	.01884	1.07412	1.01800
2.990	41.790	1.57134	-.14349	.00589	-.00133	-.00029	.09497	.01884	1.10826	1.11807
GRADIENT		.04427	-.00419	.00019	-.00005	-.00005	.00013	.00015	.02585	.03850

RUN NO. 145/ 0 RV/L = 5.16 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.690	.54147	-.04813	.00147	.00040	-.00010	.07819	.00491	.47888	.26460
4.959	22.640	.61476	-.05247	.00265	.00008	-.00010	.07829	.00491	.53716	.30895
4.959	24.700	.69855	-.05548	.00314	.00003	.00020	.07898	.00461	.60161	.36370
4.959	26.730	.78292	-.06178	.00304	-.00007	.00029	.07927	.00432	.66352	.42305
4.959	28.810	.87325	-.06891	.00353	-.00036	.00039	.08084	.00432	.72788	.49261
4.959	30.860	.96884	-.07612	.00461	-.00055	.00049	.08222	.00451	.78940	.56767
4.959	32.920	1.06401	-.08389	.00451	-.00016	.00000	.08369	.00451	.84758	.64871
4.959	34.980	1.16006	-.09406	.00500	-.00083	.00000	.08467	.00471	.90183	.73456
4.959	37.020	1.25493	-.10270	.00628	-.00000	.00000	.08663	.00471	.94971	.82482
4.959	39.100	1.35079	-.11200	.00667	-.00161	.00020	.08722	.00481	.99317	.91959
4.959	41.050	1.44439	-.12153	.00785	-.00180	.00029	.08820	.00451	1.03114	1.01925
GRADIENT		.04472	-.00367	.00028	-.00010	.00001	.00034	-.00000	.02765	.03712

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) ORB 34-0 (BCFN) (NE) (VR)

(R92111) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1981.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = 16.300
 SPDRK = 55.000 RUDDER = .000
 CONFIC = 1.000

PARAMETRIC DATA

RUN NO. 187/ 0 RV/L = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.598	.080	.00334	.00731	.00118	.00070	.00098	.08173	.04140	.00324	.08173
.598	2.070	.10262	.00406	.00010	.00098	.00059	.08114	.04130	.09958	.08477
.598	4.160	.19946	.00251	-.00334	.00105	-.00039	.07653	.04111	.19338	.09075
.598	6.240	.30738	-.00138	-.00029	.00078	-.00029	.06789	.04268	.29816	.10096
.598	8.360	.42011	-.00558	.00078	.00001	-.00049	.06063	.04189	.40677	.12107
.598	10.460	.52842	-.01062	.00196	-.00224	-.00196	.05406	.04209	.50978	.14913
.598	12.540	.63939	-.01532	.00167	-.00087	-.00078	.05553	.04229	.61211	.19308
.598	14.660	.75673	-.02264	.00157	.00001	-.00196	.05592	.04297	.71788	.24577
.598	16.790	.90134	-.03561	.00000	.00029	-.00099	.05563	.04611	.84689	.31366
.598	18.890	1.04056	-.04635	-.00422	.00075	.00383	.03288	.04955	.96737	.38685
.598	20.940	1.17880	-.05410	-.00451	.00055	.00363	.04984	.05435	1.08304	.46789
GRADIENT		.04783	-.00117	-.00110	.00009	-.00034	-.00127	-.00007	.04637	.00221

RUN NO. 186/ 0 RV/L = 6.22 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.896	.030	-.01737	.02245	-.00275	.00145	.00167	.10086	.04297	-.01746	.10076
.896	2.140	.09458	.01737	-.00285	.00184	-.00010	.09732	.04356	.09085	.10096
.896	4.320	.21967	.00544	-.00510	.00300	.00216	.09723	.04503	.21162	.11351
.896	6.490	.33632	-.00643	-.00392	.00222	.00177	.09978	.04562	.32288	.13716
.896	8.630	.44640	-.01744	-.00020	.00137	.00099	.10076	.04533	.42619	.16679
.896	10.820	.58217	-.03077	.00020	.00079	.00177	.10204	.04552	.53294	.20584
.896	13.000	.69325	-.05102	-.00216	.00116	.00314	.10517	.04847	.65185	.25842
.896	15.180	.82590	-.06912	.00177	.00021	.00206	.10655	.03298	.76919	.31915
.896	17.390	.95295	-.08315	.00029	.00147	.00049	.11087	.06289	.87613	.39068
.896	19.510	1.05577	-.07522	-.00157	.00175	.00029	.11243	.06848	.95746	.45867
.896	21.580	1.12670	-.06809	.00078	.00051	-.00059	.11783	.08094	1.00436	.52401
GRADIENT		.05553	-.00399	-.00055	.00036	.00012	-.00085	.00048	.05366	.00301

MSFC 581(0449) CRB 34-0 (BCFM) (NE) (NR)

(R92112) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
AILRON = -.670 BDFLAP = 16.300
SPDBRK = 85.000 RUDDER = .000
CONFIG = 1.000

RUN NO. 188/ 0 RN/L = 4.99 GRADIENT INTERVAL = -5.00/ 5.00											
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD	
.597	.050	-.03081	.04139	.00029	.00206	.00069	.11322	.05730	-.03090	.11322	
.597	2.070	.07231	.03781	-.00265	.00243	.00020	.11263	.05710	.06819	.11518	
.597	4.160	.17169	.03562	-.00147	.00224	-.00059	.10822	.05700	.16335	.12038	
.597	6.240	.27834	.03201	-.00314	.00223	-.00039	.10017	.05789	.26578	.12980	
.597	8.360	.38862	.02864	-.00059	.00107	-.00010	.09144	.05838	.37115	.14697	
.597	10.460	.50341	.02177	.00186	-.00097	-.00147	.08408	.05847	.47976	.17415	
.597	12.560	.61152	.01808	.00206	-.00038	-.00088	.08339	.05759	.57876	.21447	
.597	14.670	.73456	.01279	.00108	-.00089	-.00216	.08261	.05602	.68962	.26598	
.597	16.780	.86828	.00119	-.00010	.00137	-.00108	.08084	.05808	.80784	.32818	
.597	18.880	1.00603	-.00899	-.00206	.00106	.00314	.07888	.06083	.92826	.40029	
.597	20.920	1.14299	-.01841	-.00412	.00154	.00334	.07653	.06299	1.04027	.47976	
GRADIENT		.04926	-.00140	-.00042	.00004	-.00031	-.00122	-.00007	.04726	.00175	

RUN NO. 189/ 0 RN/L = 6.30 GRADIENT INTERVAL = -5.00/ 5.00											
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD	
.896	.040	-.03916	.06521	-.00491	.00300	.00098	.12970	.05376	-.05926	.12970	
.896	2.130	.05553	.05969	-.00451	.00271	-.00039	.12970	.05376	.05072	.13166	
.896	4.310	.17719	.04771	-.00618	.00397	.00078	.12646	.05416	.16708	.13951	
.896	6.470	.29934	.03612	-.00628	.00377	.00167	.12872	.05465	.28295	.16169	
.896	8.630	.41177	.02350	-.00530	.00290	.00069	.13255	.05632	.38714	.19298	
.896	10.820	.52999	.00904	-.00422	.00222	.00186	.13363	.05779	.49546	.23085	
.896	12.970	.65734	-.01165	-.00363	.00164	.00245	.13441	.05867	.61035	.27863	
.896	15.190	.79058	-.02655	-.00373	.00252	.00098	.13637	.06191	.72720	.33878	
.896	17.360	.90105	-.03097	-.00265	.00253	.00049	.13667	.06936	.81913	.39931	
.896	19.520	1.01839	-.03529	-.00294	.00233	.00000	.14167	.07898	.91253	.47387	
.896	21.570	1.09168	-.02377	-.00294	.00174	-.00049	.14295	.08516	.98256	.53441	
GRADIENT		.05535	-.00411	-.00030	.00023	-.00004	-.00076	.00009	.05301	.00231	

MSFC 581 (OA49) CRB 34-0 (BCFM) (ME) (NR)

(R92112) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XREF = 1081.3900 IN.
 LREF = 481.6480 IN. YREF = .0000 IN.
 BREF = 936.7000 IN. ZREF = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 ALLRON = -.670 BOFLAP = 16.300
 SPDRK = 85.000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 190/ 0 RIVL = 6.76 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CO
1.202	.170	.00971	.05818	.00216	.00129	-.00226	.19975	.05543	.00912	.19975
1.202	2.280	.14187	.02499	.00069	.00177	-.00186	.20054	.05563	.13372	.20603
1.202	4.490	.27648	-.00709	.00020	.00206	-.00128	.19867	.05455	.25999	.21967
1.202	6.680	.40569	-.03308	.00000	.00235	-.00020	.19534	.05455	.38018	.24125
1.202	8.930	.53863	-.05436	-.00098	.00244	.00108	.19259	.05641	.50213	.27593
1.202	11.150	.66274	-.06795	-.00157	.00254	.00196	.18955	.05818	.61349	.31425
1.202	13.350	.78636	-.08174	.00020	.00177	.00177	.18808	.05985	.72160	.36468
1.202	15.590	.90851	-.09701	-.00108	.00235	.00128	.18749	.06142	.82462	.42492
1.202	17.800	1.02300	-.10669	-.00088	.00235	.00029	.18965	.06505	.91606	.49340
1.202	19.970	1.11915	-.10690	-.00834	.00474	.00206	.19163	.07025	.98670	.56149
1.202	22.060	1.20107	-.10065	-.00108	.00186	.00049	.19269	.07751	1.04066	.62987
GRADIENT		.06174	-.01511	-.00045	.00018	.00023	-.00025	-.00021	.05806	.00462

MSFC 581 (0449) ORB 34-0 (BCFM) (NE) (NR)

(R92113) (22 MAY 74)

REFERENCE DATA

SEEF = 2741.0000 SA. FT XMRP = 1081.3500 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREP = 930.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 ALLRON = -.670 BDFLAP = 16.300
 SPDRK = 55.000 RUDDER = -10.000
 CONFIG = 1.000

RUN NO. 236/ 0 RWL = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.908	.060	.00392	.01235	-.03365	.01680	.00677	.08987	.04317	.00373	.08987
.908	2.070	.09684	.01160	-.03149	.01642	.00706	.08830	.04229	.09360	.09183
.908	4.160	.19544	.01153	-.03179	.01593	-.00795	.08565	.04199	.18877	.09968
.908	6.240	.30454	.00902	-.03022	.01594	-.00736	.07927	.04160	.29404	.11194
.908	8.360	.41177	.00570	-.02865	.01438	-.00765	.06976	.04042	.39725	.12902
.908	10.460	.52695	-.00010	-.02718	.01263	-.00893	.06426	.04140	.50645	.15894
.908	12.560	.63674	-.00560	-.02727	.01332	-.00814	.06387	.04287	.60750	.20593
.908	14.670	.76379	-.01711	-.02659	.01362	-.00961	.06328	.04307	.72479	.25479
.908	16.800	.90517	-.03110	-.02855	.01458	-.00736	.05906	.04582	.84934	.31827
.908	18.920	1.04714	-.04450	-.02953	.01438	-.00304	.05822	.04817	.97218	.39284
.908	20.940	1.18272	-.05249	-.03228	.01455	-.00147	.05357	.05376	1.08550	.47280
GRADIENT		.04671	-.00020	.00045	-.00016	-.00029	-.00103	-.00029	.04513	.00240

RUN NO. 237/ 0 RWL = 6.27 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.903	.060	-.02551	.02696	-.03228	.01720	-.00589	.10449	.04513	-.02561	.10449
.903	2.120	.09173	.01752	-.03355	.01689	-.00677	.10380	.04543	.08781	.10714
.903	4.300	.22232	.02668	-.03365	.01787	-.00402	.10419	.04523	.21378	.12068
.903	6.480	.33927	-.00959	-.03257	.01680	-.00441	.10459	.04523	.32524	.14216
.903	8.640	.44689	-.01869	-.03179	.01583	-.00451	.10380	.04532	.42619	.16873
.903	10.820	.55727	-.02931	-.03002	.01486	-.00583	.10396	.04631	.52744	.20878
.903	12.970	.68295	-.04751	-.03130	.01475	-.00412	.10674	.04778	.64155	.25734
.903	15.180	.82315	-.06723	-.03493	.01600	-.00549	.10988	.05298	.76566	.32161
.903	17.390	.94490	-.07544	-.03424	.01561	-.00579	.11126	.05730	.86867	.38803
.903	19.520	1.04792	-.07457	-.03071	.01437	-.00628	.11430	.06515	.94942	.45798
.903	21.590	1.12278	-.06941	-.03208	.01377	-.00677	.12107	.07839	.99936	.52587
GRADIENT		.03605	-.00570	-.00032	.00016	.00045	-.00007	.00002	.05607	.00382



DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581 (0449) ORB 34-C (BCFN) (WE) (NR)

(092113) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8700 SQ. FT YMRP = 1081.3900 IN.
 LREF = 481.6400 IN. YMRP = .0000 IN.
 BREF = 936.7500 IN. ZMRP = .0000 IN.
 SCALE = .5540

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = 16.300
 SPDRK = 55.000 RUDDER = -10.000
 CONFIG = 1.000

RUN NO. 238/ 0 RW/L = 6.68 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.199	.150	.03355	.01408	-.02109	.01376	-.00961	.17238	.05504	.03306	.17248
1.199	2.230	.16394	-.01682	-.02257	.01404	-.00922	.17287	.05367	.15708	.17915
1.199	4.460	.29541	-.04558	-.02325	.01433	-.00863	.17189	.05298	.28109	.19436
1.199	6.690	.42482	-.06885	-.02306	.01404	-.00765	.16973	.05376	.40206	.21790
1.199	8.910	.55482	-.08834	-.02325	.01354	-.00579	.16630	.05406	.52234	.25028
1.199	11.130	.67873	-.10587	-.02296	.01335	-.00510	.16355	.05553	.63438	.29159
1.199	13.350	.80578	-.11596	-.02266	.01257	-.00530	.16404	.05828	.74623	.34555
1.199	15.540	.92263	-.12957	-.02355	.01295	-.00500	.16434	.06053	.84473	.40569
1.199	17.780	1.04321	-.14234	-.02492	.01324	-.00618	.16610	.06475	.94265	.47682
1.199	19.950	1.14034	-.14466	-.02914	.01487	-.00549	.16620	.06887	1.01525	.54550
1.199	22.050	1.23325	-.14250	-.03169	.01524	-.00559	.16806	.07315	1.07990	.61888
1.199	GRADIENT	.06073	-.01383	-.00050	.00013	.00023	-.00012	-.00048	.05752	.00510

MSFC 581(0449) OFB 34-0 (BCFN) (NE) (NR)

(R92114) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRCON = -.670 BOFLAP = 16.300
 SPDRK = 85.000 RUDDER = -10.000
 CONFIG = 1.000

RUN NO. 235/ 0 RV/L = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.600	.060	-.02698	.04280	-.02541	.01274	-.00353	.11928	.05288	-.02708	.11528
.620	2.070	.07172	.04012	-.02531	.01245	-.00412	.11381	.05298	.06750	.11636
.640	4.160	.17071	.03735	-.02414	.01207	-.00461	.10910	.05259	.16228	.12126
.660	6.260	.28168	.03245	-.02296	.01149	-.00422	.10135	.05357	.26892	.13147
.680	8.370	.39421	.02683	-.02247	.01071	-.00412	.09419	.05465	.37635	.15060
.700	10.470	.50576	.02355	-.02041	.00866	-.00540	.08614	.05416	.48172	.17660
.720	12.570	.61604	.01896	-.01923	.00877	-.00491	.08585	.05484	.58258	.21781
.740	14.680	.72574	.00831	-.01943	.00965	-.00500	.08663	.05180	.70424	.27412
.760	16.800	.88280	.00084	-.02080	.00974	-.00441	.08153	.05445	.82158	.33328
.780	18.930	1.02575	-.01206	-.02011	.00955	-.00339	.08065	.05435	.94402	.40912
.800	20.940	1.15506	-.01889	-.02247	.01012	.00206	.07790	.05769	1.05077	.48575
GRADIENT		.04821	-.00133	.00031	-.00017	-.00026	-.00151	-.00007	.04618	.00147

RUN NO. 234/ 0 RV/L = 6.24 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.697	.040	-.03789	.06136	-.02855	.01330	-.00294	.12813	.05082	-.05798	.12813
.697	2.130	.05416	.05802	-.02943	.01330	-.00402	.12794	.05278	.04935	.12980
.697	4.310	.17944	.04648	-.03100	.01436	-.00295	.12823	.05190	.16924	.14138
.697	6.470	.29669	.03472	-.02884	.01262	-.00363	.13049	.05249	.28011	.16306
.697	8.630	.41403	.02257	-.02610	.01205	-.00245	.13206	.05475	.38950	.19289
.697	10.830	.53156	.00355	-.02404	.01079	-.00157	.13372	.05632	.49703	.23125
.697	13.010	.66755	-.01623	-.02312	.01167	-.00108	.13431	.05681	.62016	.28109
.697	15.190	.79460	-.02745	-.02394	.01158	-.00216	.13451	.06083	.73151	.33809
.697	17.370	.91734	-.03787	-.02257	.01120	-.00265	.13883	.06878	.83394	.40657
.697	19.540	1.02506	-.03760	-.02070	.01023	-.00285	.14079	.07545	.91891	.47554
.697	21.560	1.09678	-.02882	-.02090	.00935	-.00343	.14275	.08408	.96737	.53618
GRADIENT		.05559	-.00350	-.00058	.00025	.00014	.00002	.00025	.05323	.00312



DATE 18 JUL 74

TABULATED SOURCE DATA - 0149

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MSFC 591 (0149) CRB 34-0 (BCFN) (NE) (NR)

0692114) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6490 IN.
 BREF = 936.7550 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.100
 ALLCON = -.670 BDFLAP = 16.300
 SPOBRK = 63.000 RUDDER = -10.000
 CONF16 = 1.000

PARAMETRIC DATA

RUN NO. 233/ 0 RW/L = 6.64 GRADIENT INTERVAL = -.5.00/ 5.00

MACH	ALPHA	CN	CLN	CY	CYN	CDL	CAP	CAB	CL	CD
1.202	.01156	.05357	-.01069	.00727	-.00491	.19108	.03229	.01109	.19308	
1.202	.14324	-.02182	-.01148	.00785	-.00471	.19461	.03376	.13539	.20221	
1.202	.27765	-.00969	-.01168	.00785	-.00412	.19514	.03347	.26147	.21663	
1.202	.40991	-.03669	-.01177	.00775	-.00285	.19538	.03445	.38450	.23998	
1.202	.54079	-.05762	-.01217	.00775	-.00177	.19014	.03543	.50468	.27186	
1.202	.66647	-.07060	-.01207	.00746	-.00137	.18739	.03700	.61761	.31288	
1.202	.79038	-.08516	-.01177	.00697	-.00059	.18621	.03906	.72582	.36409	
1.202	.91626	-.10208	-.01226	.00736	-.00137	.18700	.06338	.83218	.42659	
1.202	1.02722	-.11117	-.01246	.00735	-.00196	.18670	.06524	.92097	.49193	
1.202	1.12651	-.11181	-.01925	.00975	-.00049	.18955	.07113	.99367	.56335	
1.202	1.21363	-.10329	-.01207	.00687	-.00177	.19220	.07761	1.03234	.63429	
1.202	.06150	-.01457	-.00023	.00013	.00018	.00054	.00027	.005769	.00543	

GRADIENT

MSFC 581 (Q449) ORB 34-0 (CCFM) (WE) (NR)

(R92115) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.8480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000
 ELEVTR = 4.160
 ALLRON = -.670
 BDF AP = 22.600
 SPDRK = 23.550
 RUE = .000
 CONFIC = 1.000

RUN NO. 193/ 0 RVL = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MOON	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.596	.070	.04685	-.02682	.00137	.00119	.00098	.07133	.03836	.04670	.07142
.596	2.580	.14106	-.02937	.00167	.00109	.00029	.07035	.03767	.13843	.07545
.596	4.170	.24361	-.03267	.00235	.00051	-.00029	.06485	.03875	.23821	.08251
.596	6.250	.34927	-.03727	.00116	.00040	-.00010	.03749	.03866	.14093	.09327
.596	8.370	.46112	-.04013	.00186	-.00008	-.00039	.04964	.04023	.44895	.11626
.596	10.470	.57012	-.04535	.00353	-.00174	-.00226	.04288	.04072	.55285	.14580
.596	12.550	.67834	-.05029	.00324	-.00105	-.00069	.04346	.04062	.65263	.18984
.596	14.670	.80225	-.05779	.00422	.00003	-.00235	.04454	.04287	.76477	.24636
.596	16.790	.94422	-.07168	.00294	.00002	-.00108	.04415	.04523	.89114	.31523
.596	18.900	1.08579	-.08364	-.00020	.00069	.00294	.04238	.04955	1.01348	.39185
.596	20.930	1.22442	-.09100	.00000	.00059	.00343	.04091	.05455	1.12896	.47574
GRADIENT		.04801	-.00143	.00024	-.00017	-.00031	-.00159	.00010	.04672	.00271

RUN NO. 192/ 0 RVL = 6.32 GRADIENT INTERVAL = -5.00/ 5.00

MOON	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.903	.080	.02070	-.01824	-.00167	.00116	.00118	.08575	.04042	.02051	.08575
.903	2.150	.13637	-.02345	-.00128	.00146	-.00010	.08663	.04111	.13304	.09173
.903	4.340	.28088	-.03636	-.00461	.00271	.00206	.08702	.04219	.25352	.10655
.903	6.520	.37361	-.04665	-.00481	.00241	.00196	.08869	.04336	.36115	.13049
.903	8.680	.48673	-.06264	-.00324	.00174	.00088	.09262	.04582	.46730	.16483
.903	10.830	.60397	-.07796	-.00216	.00067	.00216	.09487	.04749	.57532	.20682
.903	13.010	.74231	-.10276	-.00177	.00087	.00206	.09791	.04925	.70120	.26264
.903	15.210	.87328	-.11875	-.00029	.00088	.00078	.09762	.05376	.81707	.32337
.903	17.410	1.00887	-.13351	.00157	.00109	.00020	.10086	.05867	.93235	.39833
.903	19.520	1.08844	-.12334	-.00098	.00146	-.00049	.09997	.06505	.99239	.45798
.903	21.570	1.16889	-.11007	-.00078	.00088	-.00069	.10262	.07221	1.04920	.52528
GRADIENT		.05638	-.00427	-.00070	.00036	.00021	.00030	.00042	.05470	.00490

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TABULATED SOURCE DATA - 0A49

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MSFC 581 (0A49) ORB 34-5 (BCFN) (NE) (VR)

(R92115) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.160
 ALLRON = -.670 BDELAP = 22.600
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 191/ 0 RV/L = 6.75 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.199	.190	.04533	.00256	.00324	.00071	-.00206	.17581	.05475	.04484	.17591
1.199	2.290	.17532	-.02873	.00196	.00119	-.00167	.17719	.05514	.16816	.18396
1.199	4.460	.30640	-.05836	.00108	.00148	-.00108	.17424	.05504	.29188	.19760
1.199	6.660	.43718	-.08306	.00078	.00177	-.00010	.17160	.05651	.41432	.22124
1.199	8.910	.56630	-.10238	.00020	.00167	.00128	.16924	.05769	.53323	.25499
1.199	11.130	.69168	-.11498	-.00049	.00157	.00226	.16777	.06004	.64616	.29815
1.199	13.330	.81422	-.12869	.00000	.00137	.00245	.16634	.06309	.75320	.35251
1.199	15.570	.94353	-.14490	.00049	.00118	.00108	.17101	.06681	.86288	.41815
1.199	17.780	1.05440	-.15629	.00088	.00158	.00049	.17228	.06956	.95148	.48604
1.199	19.950	1.15977	-.16176	.00510	.00310	.00147	.17375	.07398	1.03075	.55923
1.199	22.060	1.24983	-.15810	.00118	.00176	.00069	.17640	.07908	1.09197	.63291
GRADIENT		.06056	-.01413	-.00050	.00018	.00023	-.00037	.00007	.05731	.00504

RUN NO. 301/ 0 RV/L = 6.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.956	.040	.00010	-.01015	-.00177	.00273	-.00118	.13686	.03022	.00000	.13686
1.956	2.090	.07937	-.02194	-.00235	.00302	-.00128	.13490	.02904	.07447	.13775
1.956	4.260	.16473	-.03432	-.00216	.00283	-.00088	.13480	.02953	.15423	.14668
1.956	6.430	.25008	-.04553	-.00255	.00273	-.00059	.13461	.02953	.23350	.16188
1.956	8.600	.33299	-.05484	-.00255	.00263	-.00059	.13088	.02875	.30964	.17915
1.956	10.770	.41746	-.06297	-.00235	.00224	-.00039	.12843	.02963	.38607	.25427
1.956	12.930	.50380	-.06962	-.00216	.00194	-.00029	.12391	.02875	.46328	.23350
1.956	15.190	.59769	-.07702	-.00157	.00175	-.00039	.12254	.03041	.54491	.27451
1.956	17.340	.69266	-.08527	-.00147	.00136	-.00029	.11940	.03061	.62555	.32053
1.956	19.510	.78490	-.09424	-.00069	.00117	-.00020	.11783	.03140	.70051	.37331
1.956	21.610	.87642	-.10255	.00020	.00049	-.00020	.11636	.03257	.77184	.43110
GRADIENT		.03901	-.00573	-.00009	.00002	.00007	-.00048	-.00016	.03655	.00234

MSFC 581(0449) ORB 34-0 (BCFN) (WE) (VR)

(R92116) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 16.750
 AILRON = -1.680 BDFLAP = 22.600
 SPDRK = 25.550 RUDDER = .000
 CONFIC = 1.000

RUN NO. 194/ 0 RNVL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.595	.210	.31160	-.15915	.00304	.00101	-.00098	-.09340	.04121	.31121	.09458
.595	2.210	.39872	-.15795	.00432	.00102	-.00206	.09065	.04297	.39490	.10606
.595	4.310	.50017	-.16059	.00451	.00082	-.00275	.08487	.04278	.49222	.12225
.595	6.390	.61398	-.16709	.00657	.00035	-.00226	.07741	.04160	.60152	.14530
.595	8.510	.72896	-.17173	.00765	.00082	-.00265	.06760	.04189	.71091	.17483
.595	10.610	.83473	-.17449	.00942	.00218	-.00320	.06338	.04258	.80882	.21614
.595	12.670	.92842	-.17725	.00304	.00032	-.00147	.07172	.04474	.89500	.27373
.595	14.770	1.04292	-.17910	.00922	.00008	-.00559	.07280	.04611	.98984	.33642
.595	16.910	1.18420	-.19387	.00098	.00079	.00157	.07613	.04837	1.11081	.41746
.595	19.020	1.32724	-.20822	.00069	.00158	.00412	.07692	.05288	1.22962	.50537
.595	21.030	1.41858	-.19496	.01158	.00020	-.00265	.07378	.05818	1.25751	.57817
GRADIENT		.04599	-.00036	.00036	-.00005	-.00043	-.00209	.00038	.04417	.00676

RUN NO. 195/ 0 RNVL = 6.30 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.899	.260	.25842	-.15604	.00667	-.00063	-.00481	.11332	.04317	.25783	.11450
.899	2.350	.39038	-.17192	.00677	-.00024	-.00530	.11391	.04346	.38538	.12990
.899	4.540	.52921	-.19185	.00128	.00138	.00020	.11459	.04317	.51842	.15619
.899	6.690	.64390	-.20365	-.00147	.00185	.00294	.11685	.04435	.62595	.19112
.899	8.870	.74917	-.21165	-.00108	.00176	.00186	.12156	.04778	.72141	.23576
.899	11.010	.84650	-.21764	-.00275	.00145	.00206	.12499	.05043	.80696	.28452
.899	13.200	.97610	-.23771	-.00294	.00145	.00206	.13323	.05337	.91979	.35271
.899	15.330	1.08059	-.24040	-.00235	.00184	.00108	.13323	.05641	1.00681	.41442
.899	17.520	1.17537	-.23995	-.00010	.00118	.00078	.13932	.06613	1.07883	.48683
.899	19.650	1.26249	-.22715	-.00294	.00155	.00098	.14216	.07613	1.14113	.55854
.899	21.660	1.29290	-.19204	.00441	-.00085	-.00186	.14569	.08516	1.14770	.61270
GRADIENT		.06327	-.00837	-.00127	.00047	.00118	.00030	-.00000	.06088	.00976

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581 (0449) CRB 34-0 (BCFM) (NE) (NR)

(R92116) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 ELEVTR = 16.790
 AILRON = -1.680
 B0FLAP = 22.800
 SPDRK = 25.590
 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 196/ 0 RN/L = 6.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.195	.280	.20103	-.10879	.00373	.00111	-.00412	.20652	.06279	.19995	.20750
1.195	2.370	.32867	-.13770	.00255	.00149	-.00363	.20750	.06210	.31974	.22085
1.195	4.580	.46495	-.16831	.00167	.00198	-.00265	.20701	.06142	.44680	.24361
1.195	6.810	.60073	-.19535	.00196	.00198	-.00098	.20692	.06055	.57199	.27677
1.195	9.040	.73583	-.21621	.00216	.00159	-.00069	.20603	.06161	.69433	.31915
1.195	11.280	.87103	-.23253	.00275	.00130	.00069	.20642	.06367	.81383	.37292
1.195	13.490	.98533	-.24047	.00216	.00129	.00098	.20692	.06465	.90978	.43120
1.195	15.710	1.10322	-.24842	.00137	.00197	.00069	.21270	.06936	1.00622	.50409
1.195	17.920	1.21010	-.25158	.00108	.00256	.00039	.21437	.07299	1.08540	.57640
1.195	20.100	1.31311	-.25206	.00049	.00216	.00020	.21682	.07712	1.15859	.65499
1.195	22.190	1.39406	-.24410	.00206	.00110	.00000	.21947	.07986	1.20784	.72985
GRADIENT		.06138	-.01384	-.00048	.00020	.00034	.00011	-.00032	.05741	.00841

RUN NO. 300/ 0 RN/L = 6.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.957	.080	.06024	-.05504	-.00108	.00352	-.00235	.14883	.03130	.06004	.14893
1.957	2.130	.13892	-.06703	-.00186	.00352	-.00216	.14991	.03169	.13323	.15501
1.957	4.300	.22448	-.08027	-.00216	.00342	-.00216	.15070	.03071	.21261	.16708
1.957	6.470	.30983	-.09245	-.00255	.00351	-.00186	.15119	.03061	.29080	.18513
1.957	8.640	.39558	-.10336	-.00294	.00370	-.00177	.15040	.02914	.36850	.20819
1.957	10.810	.48094	-.11215	-.00275	.00341	-.00186	.14883	.03002	.44444	.23645
1.957	12.970	.56894	-.12100	-.00216	.00302	-.00206	.14766	.02983	.52126	.27167
1.957	15.200	.66892	-.13159	-.00206	.00302	-.00196	.14942	.03100	.60632	.31964
1.957	17.390	.76526	-.14224	-.00167	.00283	-.00196	.14825	.03149	.68589	.37027
1.957	19.560	.86171	-.15375	-.00147	.00254	-.00186	.14726	.03238	.76261	.42747
1.957	21.670	.95511	-.16542	-.00078	.00176	-.00216	.14883	.03414	.83257	.49104
GRADIENT		.03892	-.00598	-.00025	-.00003	.00005	.00044	-.00014	.03616	.00431

MSFC 581(QM49) CRB 34-0 (BCFM) (WE) (VR)

(R92117) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -23.840
 ALLRON = -.240 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 373/ 0 RNL = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.000	-.09183	.02271	.00069	.00187	.00020	.11950	.01688	-.09173	.11950
2.990	1.950	-.03817	.02338	-.00059	.00225	.00029	.11528	.01688	-.04209	.11391
2.990	4.010	.02188	.02163	-.00039	.00235	.00039	.11028	.01688	.01403	.11155
2.990	6.080	.07967	.02042	-.00167	.00234	.00020	.10616	.01697	.06789	.11400
2.990	8.150	.13971	.02051	-.00108	.00235	.00029	.10213	.01727	.12382	.12097
2.990	10.220	.20103	.02178	-.00128	.00225	.00010	.09870	.01737	.18033	.13284
2.990	12.290	.26608	.02224	-.00186	.00224	.00020	.09527	.01727	.23968	.14972
2.990	14.360	.32936	.02325	-.00157	.00205	.00000	.09183	.01717	.29620	.17071
2.990	16.440	.39941	.02408	-.00059	.00196	.00010	.08889	.01678	.35781	.19838
2.990	18.520	.46799	.02488	-.00049	.00127	.00010	.08634	.01707	.41628	.23056
2.990	20.500	.53676	.02395	.00010	.00098	.00010	.08330	.01697	.47358	.26608
GRADIENT		.02836	-.00028	-.00027	.00012	.00005	-.00230	-.00000	.02638	-.00197

RUN NO. 374/ 0 RNL = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.020	-.07407	-.00273	.00137	.00236	.00059	.09193	.00520	-.07407	.09183
4.959	1.950	-.03660	-.00223	.00118	.00148	.00078	.08801	.00540	-.03954	.08673
4.959	3.980	.01079	.00104	-.00078	.00245	.00069	.08447	.00549	.00491	.08496
4.959	6.010	.05641	.00380	.00088	.00256	.00059	.07947	.00569	.04778	.08487
4.959	8.040	.10331	.00426	.00010	.00186	.00039	.07613	.00569	.09164	.08987
4.959	10.080	.15266	.00892	.00059	.00187	.00029	.07447	.00549	.13726	.10007
4.959	12.120	.20574	.00976	.00049	.00128	-.00020	.07221	.00540	.18602	.11381
4.959	14.150	.26333	.01088	.00029	.00089	-.00020	.07054	.00569	.23802	.13284
4.959	16.200	.32239	.01366	.00020	.00098	-.00049	.06917	.00579	.29021	.15639
4.959	18.240	.38558	.01834	.00069	.00128	-.00029	.06760	.00579	.34496	.18494
4.959	20.180	.44894	.01956	-.00010	.00078	-.00078	.06721	.00579	.39911	.21839
GRADIENT		.02145	.00096	-.00055	-.00002	.00002	-.00188	.00007	.01996	-.00173

DATE 10 JUL 74

TABULATED SOURCE DATA - Q449

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MSFC 561(Q449) QIB 34-0 (BCFM) (NR)

(R92118) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 461.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 AILRON = -.240
 SPDPRK = 25.550
 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 396/ 0 RV/L = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	20.960	.54677	.02449	.00000	.00069	.00029	.08339	.01795	.48074	.27353
2.990	22.920	.61604	.02405	.00020	.00059	.00029	.08094	.01815	.53588	.31444
2.990	25.030	.69551	.02348	.00078	.00009	.00059	.07898	.01835	.59671	.36585
2.990	27.130	.77262	.02501	.00216	.00037	.00049	.07712	.01864	.65244	.42109
2.990	29.230	.85415	.02515	.00186	.00077	.00069	.07407	.01864	.70914	.48182
2.990	31.340	.93706	.02415	.00167	.00107	.00039	.07123	.01864	.76320	.54834
2.990	33.450	1.02271	.02262	.00235	.00106	.00000	.06887	.01874	.81520	.62134
2.990	35.550	1.10934	.02158	.00245	.00126	.00010	.06672	.01884	.86367	.69943
2.990	37.690	1.19568	.02044	.00275	.00086	.00039	.06436	.01874	.90674	.78194
2.990	39.780	1.28211	.01989	.00216	.00037	.00059	.06132	.01854	.94589	.87769
2.990	41.750	1.36246	.01817	.00245	.00076	.00088	.05926	.01844	.97689	.95158
GRADIENT		.03943	-.00029	.00012	.00007	.00006	-.00117	.00002	.02421	.03276

RUN NO. 395/ 0 RV/L = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.660	.45572	.01908	.00245	.00081	.00000	.06936	.00598	.40186	.22575
4.959	22.560	.52116	.02254	.00226	.00041	.00020	.06668	.00618	.45484	.26343
4.959	24.630	.59583	.02508	.00275	.00032	.00010	.06809	.00598	.51312	.31023
4.959	26.710	.67245	.02737	.00255	.00032	.00020	.06662	.00508	.57071	.36183
4.959	28.760	.75241	.02671	.00235	.00028	.00039	.06564	.00618	.62801	.41962
4.959	30.840	.83630	.02931	.00343	.00003	.00029	.06583	.00618	.68422	.48526
4.959	32.910	.92087	.02863	.00324	.00003	.00059	.06465	.00608	.73789	.55462
4.959	34.970	1.00632	.02845	.00373	.00013	.00049	.06377	.00589	.78803	.62909
4.959	37.070	1.09276	.02712	.00285	.00027	.00069	.06181	.00618	.83463	.70807
4.959	39.120	1.17890	.02675	.00402	.00085	.00098	.06034	.00589	.87642	.79077
4.959	41.060	1.26278	.02684	.00451	.00055	.00059	.05916	.00579	.91321	.87417
GRADIENT		.03976	.00029	.00009	.00006	.00004	-.00049	-.00001	.02543	.03189

MSFC 581(0449) CRB 34-0 (BCFM) (NE) (VR)

(R92119) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 461.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BCFAP = -11.700
 SPDRK = 25.000 RUDDER = .000
 CONFIC = 1.000

RUN NO. 397/ 0 RNL = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	20.980	.61682	-.03193	.00029	.00039	.00000	.07613	.01776	.54864	.29198
2.990	22.950	.69384	-.03428	.00088	-.00009	.00000	.07486	.01805	.60966	.33956
2.990	25.050	.77458	-.03870	.00108	-.00019	.00010	.07476	.01815	.67000	.39578
2.990	27.170	.86190	-.04204	.00206	-.00067	.00010	.07398	.01844	.73299	.45945
2.990	29.260	.94706	-.04533	.00147	-.00107	.00000	.07241	.01844	.79077	.52627
2.990	31.380	1.03742	-.05036	.00206	-.00116	.00010	.07182	.01874	.84817	.60161
2.990	33.500	1.13151	-.05660	.00235	-.00126	-.00010	.07133	.01913	.90409	.68413
2.990	35.600	1.22491	-.06343	.00334	-.00193	-.00010	.07015	.01943	.95501	.77017
2.990	37.740	1.31969	-.07023	.00324	-.00125	-.00078	.06917	.01962	1.00112	.86249
2.990	39.840	1.41279	-.07716	.00343	-.00115	-.00118	.06779	.01943	1.04125	.95717
2.990	41.810	1.49992	-.08437	.00402	-.00154	-.00078	.06622	.01923	1.07372	1.04939
GRADIENT		.04261	-.00252	.00017	-.00009	-.00005	-.00045	.00009	.02557	.03655

RUN NO. 398/ 0 RNL = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.680	.49850	-.01767	.00255	.00012	.00029	.06721	.00608	.44258	.23900
4.959	22.630	.57179	-.01814	.00177	.00011	.00010	.06730	.00628	.50184	.28226
4.959	24.660	.64832	-.01905	.00226	-.00008	.00039	.06603	.00608	.56159	.33063
4.959	26.720	.73259	-.02215	.00206	-.00018	.00029	.06603	.00598	.62457	.38842
4.959	28.770	.82197	-.02682	.00324	-.00076	.00039	.06603	.00628	.68864	.45366
4.959	30.850	.91047	-.03015	.00432	-.00046	.00059	.06622	.00628	.74760	.52391
4.959	32.930	1.00397	-.03494	.00422	-.00026	.00039	.06632	.00628	.80647	.60152
4.959	34.990	1.09806	-.04234	.00471	-.00075	.00020	.06632	.00618	.86131	.68432
4.959	37.070	1.19675	-.04850	.00451	-.00055	.00020	.06701	.00618	.91439	.77498
4.959	39.110	1.28643	-.05471	.00500	-.00123	-.00010	.06613	.00608	.95638	.86288
4.959	41.060	1.37855	-.06175	.00618	-.00142	-.00010	.06564	.00598	.99612	.95511
GRADIENT		.04349	-.00223	.00020	-.00007	-.00002	-.00004	-.00000	.02762	.03534

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581 (CALC) CRB 34-0 (BCFM) (NE) (VR)

(R92120) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3990 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BRFP = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -33.690
 ALLRON = -.320 BDPLAP = -11.700
 SPDRK = 25.000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 400/ 0 RWL = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	20.990	.54402	.02126	-.00098	.00068	-.00039	.08418	.01786	.47770	.27553
2.990	22.970	.61731	.02040	-.00039	.00019	-.00059	.08290	.01825	.53598	.31739
2.990	25.040	.69629	.02205	.00010	.00010	-.00020	.08173	.01884	.59612	.36890
2.990	27.130	.77233	.02249	.00098	-.00058	-.00020	.07957	.01903	.65096	.42315
2.990	29.220	.85317	.02407	.00078	-.00039	-.00020	.07751	.01884	.70669	.48427
2.990	31.340	.93813	.02262	.00098	-.00078	-.00020	.07535	.01884	.76203	.55236
2.990	33.460	1.02408	.02273	.00078	-.00097	-.00059	.07319	.01894	.81402	.62575
2.990	35.550	1.10581	.02191	.00177	-.00106	-.00069	.07133	.01903	.85817	.70110
2.990	37.660	1.19312	.02176	.00206	-.00067	-.00118	.06995	.01844	.90164	.78449
2.990	39.740	1.27534	.02220	.00186	-.00087	-.00147	.06760	.01844	.93745	.86740
2.990	41.730	1.35442	.02182	.00206	-.00096	-.00157	.06583	.01825	.96688	.95079
GRADIENT		.03923	.00002	.00014	-.00007	-.00006	-.00091	.00001	.02390	.03279

RUN NO. 399/ 0 RWL = 4.84 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.690	.43229	.01902	-.00010	-.00010	-.00078	.07201	.00648	.39764	.22722
4.959	22.620	.52185	.02226	.00088	.00001	-.00039	.07192	.00638	.45406	.26716
4.959	24.670	.59485	.02584	.00206	-.00008	-.00029	.07172	.00628	.51057	.31356
4.959	26.700	.66970	.02752	.00186	-.00038	-.00039	.07084	.00608	.56639	.36429
4.959	28.760	.74947	.02957	.00235	-.00047	-.00049	.07025	.00618	.62310	.42227
4.959	30.830	.83257	.02944	.00206	-.00087	-.00059	.07035	.00608	.67883	.48722
4.959	32.910	.91822	.03168	.00128	-.00058	-.00088	.06917	.00608	.73318	.55707
4.959	34.950	1.00200	.03196	.00177	-.00008	-.00078	.06878	.00598	.78184	.63046
4.959	37.030	1.09030	.03027	.00216	-.00116	-.00088	.06779	.00598	.82953	.71081
4.959	39.060	1.17458	.03200	.00265	-.00086	-.00088	.06701	.00579	.86965	.79234
4.959	41.020	1.25582	.02982	.00383	-.00144	-.00088	.06622	.00569	.90399	.87426
GRADIENT		.03975	.00052	.00011	-.00006	-.00002	-.00029	-.00003	.02528	.03196

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

(892121) (22 MAY 74)

MSFC 581 (0A49) ORB 34-0 (BCF-1) (WE) (VR)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
LREF = 481.6480 IN.
BREF = 936.7050 IN.
SCALE = .0040

BETA = .000
AILRON = -.670
SPDRBK = 85.000
CONFIC = 1.000

ELEVTR = 4.160
BDFLAP = -11.700
RUDDER = .000

PARAMETRIC DATA

RUN NO. 392/ 0 RV/L = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.070	.39769	-.00187	.00128	.00030	.00000	.09428	.01737	.52372	.30287
2.990	23.050	.67804	-.00871	.00196	.00011	-.00010	.09095	.01766	.58827	.34927
2.990	25.160	.76046	-.01533	.00216	-.00008	-.00010	.08791	.01756	.65087	.40294
2.990	27.250	.84797	-.02302	.00275	-.00076	-.00010	.08438	.01786	.71523	.46338
2.990	29.380	.93637	-.03070	.00265	-.00076	.00000	.08075	.01795	.77625	.52990
2.990	31.480	1.02653	-.03680	.00245	-.00037	-.00039	.07790	.01815	.83473	.60260
2.990	33.600	1.12150	-.04554	.00226	-.00145	-.00039	.07643	.01854	.89173	.68432
2.990	35.750	1.21441	-.05305	.00363	-.00164	-.00049	.07437	.01874	.94275	.76909
2.990	37.810	1.30860	-.06238	.00324	-.00135	-.00108	.07192	.01884	.98964	.85916
2.990	39.950	1.40220	-.07085	.00265	-.00086	-.00128	.06878	.01874	1.03095	.95285
2.990	41.940	1.49334	-.07955	.00294	-.00086	-.00137	.06691	.01884	1.06578	1.04812
GRADIENT		.04303	-.00369	.00007	-.00007	-.00007	-.00129	.00008	.02627	.03553

RUN NO. 391/ 0 RV/L = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.790	.49909	-.00615	.00255	.00139	.00020	.07231	.00579	.44091	.24488
4.959	22.720	.57110	-.01216	.00245	.00071	.00000	.06976	.00579	.49978	.28491
4.959	24.770	.65253	-.01637	.00294	.00042	-.00010	.06838	.00569	.56384	.33514
4.959	26.820	.73348	-.01759	.00285	.00071	-.00049	.06789	.00569	.62389	.39166
4.959	28.900	.81962	-.02202	.00392	.00003	-.00020	.06760	.00569	.68481	.45533
4.959	30.950	.91184	-.02674	.00510	-.00035	-.00049	.06662	.00569	.74721	.52695
4.959	33.010	1.00563	-.03462	.00363	.00013	-.00078	.06495	.00569	.80696	.60387
4.959	35.070	1.09943	-.04096	.00481	.00004	-.00128	.06495	.00569	.86239	.68501
4.959	37.150	1.19940	-.05039	.00530	.00004	-.00118	.06603	.00579	.91596	.77714
4.959	39.210	1.28898	-.05660	.00579	-.00074	-.00147	.06485	.00559	.95766	.86514
4.959	41.170	1.38287	-.06487	.00628	-.00103	-.00128	.06475	.00569	.99828	.95913
GRADIENT		.04366	-.00280	.00019	-.00009	-.00008	-.00032	-.00000	.02781	.03526

DATE 18 JUL 74

TABULATED SOURCE DATA - ON49

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MSFC 581(ON49) ORB 34-0 (BCFN) (AE) (WP)

(092122) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = -33.650
 AILRON = -.320 BDFLAP = -11.700
 SPDRK = 85.000 RUDDER = .000
 CONFIC = 1.000

RUN NO. 393/ 0 RV/L = 4.13 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.020	.52234	.05060	.00000	.00069	-.00029	.10311	.01766	.45052	.28364
2.990	22.980	.59622	.04714	.00010	.00010	-.00039	.09860	.01795	.51037	.32357
2.990	25.080	.67530	.04531	.00108	-.00029	-.00010	.09419	.01825	.57169	.37164
2.990	27.210	.75712	.04246	.00206	-.00057	.00000	.08977	.01844	.63223	.42619
2.990	29.320	.84110	.03887	.00147	-.00067	-.00020	.08477	.01835	.69178	.48594
2.990	31.440	.92489	.03731	.00099	.00000	-.00078	.08035	.01815	.74711	.55099
2.990	33.590	1.01064	.03529	.00157	-.00058	-.00108	.07712	.01815	.79960	.62291
2.990	35.650	1.09531	.03403	.00235	-.00076	-.00108	.07407	.01815	.84679	.69865
2.990	37.760	1.18253	.03213	.00235	-.00008	-.00167	.07133	.01795	.89104	.78067
2.990	39.900	1.26916	.02916	.00186	-.00018	-.00177	.06858	.01795	.92960	.86681
2.990	41.850	1.35197	.02671	.00128	-.00009	-.00167	.06593	.01786	.96296	.95118
GRADIENT		.03986	-.00109	.00008	-.00002	-.00009	-.00179	-.00000	.02483	.03212

RUN NO. 394/ 0 RV/L = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.880	.45190	.03197	-.00020	.00039	-.00069	.07800	.00569	.39441	.23399
4.959	22.810	.51832	.03226	.00088	.00030	-.00029	.07613	.00579	.44817	.27118
4.959	24.840	.59318	.03336	.00069	.00050	-.00039	.07437	.00579	.50704	.31680
4.959	26.840	.66009	.03665	.00118	.00021	-.00039	.07339	.00569	.55580	.36360
4.959	28.870	.73622	.03758	.00294	.00002	-.00039	.07368	.00579	.60907	.42011
4.959	30.930	.81756	.03878	.00216	.00012	-.00088	.07221	.00559	.66411	.48231
4.959	32.980	.90203	.03790	.00128	.00021	-.00108	.07054	.00559	.71817	.55030
4.959	35.000	.98493	.03633	.00245	-.00018	-.00118	.06878	.00540	.76723	.62134
4.959	37.050	1.06901	.03564	.00226	.00002	-.00128	.06760	.00530	.81236	.69816
4.959	39.070	1.15221	.03474	.00275	-.00057	-.00147	.06691	.00510	.85229	.77831
4.959	41.000	1.23178	.03437	.00383	-.00095	-.00147	.06495	.00500	.88682	.85729
GRADIENT		.03897	.00013	.00015	-.00005	-.00006	-.00061	-.00004	.02482	.03115

MSFC 561 (0449) ORB 34-0 (BCFM) (NE) (NR)

(R92123) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
LREF = 481.6480 IN.
BREF = 936.7000 IN.
SCALE = .0040

MARP = 1081.3900 IN.
YMRP = .0000 IN.
ZMRP = .0000 IN.

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
AILRON = -.670 BOFLAP = -11.700
SPDRBK = 85.000 RUDDER = .000
CONFIG = 1.000

RUN NO. 401/ 0 RN/L = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLN	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.040	.60995	-.00670	-.00618	.00368	-.00177	.09468	.01815	.53529	.30738
2.990	23.020	.68893	-.01299	-.00559	.00309	-.00157	.09144	.01815	.59818	.33369
2.990	25.090	.76958	-.02021	-.00343	.00184	-.00128	.08801	.01825	.65960	.40608
2.990	27.180	.85611	-.02618	-.00137	.00097	-.00049	.08438	.01825	.72298	.46612
2.990	29.270	.94226	-.03341	-.00108	.00029	-.00069	.08075	.01835	.78243	.53117
2.990	31.380	1.03458	-.04045	-.00128	.00019	-.00078	.07908	.01854	.84199	.60642
2.990	33.530	1.12759	-.04699	-.00029	.00010	-.00098	.07662	.01874	.89781	.68638
2.990	35.580	1.21922	-.05471	.00020	-.00049	-.00098	.07447	.01903	.94814	.77007
2.990	37.700	1.31596	-.06420	.00049	-.00059	-.00137	.07270	.01923	.99661	.86239
2.990	39.800	1.40965	-.07247	.00078	.00020	-.00186	.07015	.01923	1.03801	.95629
2.990	41.770	1.50070	-.08165	.00098	-.00048	-.00147	.06770	.01923	1.07412	1.05028
	GRADIENT	.04906	-.00355	.00034	-.00018	-.00001	-.00126	.00056	.02626	.03596

RUN NO. 402/ 0 RN/L = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLN	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	20.830	.50419	-.00878	.00000	.00186	-.00098	.07241	.00349	.44542	.24624
4.999	22.750	.57611	-.01324	.00186	.00090	-.00049	.07084	.00379	.50390	.28825
4.999	24.810	.65548	-.01565	.00098	.00148	-.00069	.06936	.00359	.56580	.33809
4.999	26.860	.73858	-.01858	.00088	.00118	-.00137	.06858	.00379	.62781	.39499
4.999	28.920	.82933	-.02341	.00196	.00060	-.00118	.06858	.00369	.69266	.46122
4.999	30.980	.92116	-.02804	.00314	.00061	-.00088	.06966	.00379	.75378	.53402
4.999	33.050	1.02006	-.03671	.00304	.00032	-.00128	.06868	.00379	.81756	.61388
4.999	35.110	1.11385	-.04557	.00353	.00052	-.00128	.06760	.00379	.87230	.69600
4.999	37.190	1.21226	-.05270	.02461	.00004	-.00098	.06701	.00379	.92513	.78626
4.999	39.230	1.30487	-.05973	.00520	-.00015	-.00128	.06613	.00359	.96884	.87662
4.999	41.210	1.39553	-.06679	.00697	-.00073	-.00098	.06564	.00359	1.00652	.96884
	GRADIENT	.04426	-.00290	.00029	-.00010	-.00002	-.00027	.00000	.02818	.03575

DATE 16 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581 (0449) ORB 34-0 (BCFM) (WE) (NR)

(R92124) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.000 RUDDER = .000
 CONF16 = 1.000

RUN NO. 403/ 0 RV/L = 4.74 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.810	.52802	-.01230	-.00059	.00127	.00010	.06838	.00579	.49062	.24449
4.959	22.760	.58170	-.01557	.00039	.00020	.00059	.06750	.00559	.51027	.28727
4.959	24.810	.65921	-.01569	.00147	.00001	.00078	.06750	.00559	.57012	.33770
4.959	26.870	.74358	-.01821	.00196	-.00018	.00108	.06691	.00569	.63301	.39578
4.959	28.920	.83129	-.02251	.00177	-.00048	.00088	.06691	.00559	.69521	.46073
4.959	30.980	.92155	-.02784	.00294	-.00047	.00108	.06701	.00589	.75555	.53196
4.959	33.040	1.01417	-.03342	.00285	-.00076	.00078	.06789	.00569	.81295	.60993
4.959	35.110	1.11159	-.04038	.00324	-.00115	.00078	.06760	.00559	.87044	.69462
4.959	37.190	1.20500	-.04624	.00373	-.00124	.00118	.06721	.00579	.91920	.78194
4.959	39.230	1.29889	-.05170	.00432	-.00104	.00108	.06662	.00589	.96394	.87309
4.959	41.210	1.39092	-.05894	.00608	-.00142	.00137	.06603	.00520	1.00279	.96510
GRADIENT		.04361	-.00233	.00026	-.00011	.00004	-.00006	-.00001	.02755	.03560

MSFC 581 (0449) ORB 34-0 (BCFM) (WE) (NR)

(R92125) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.500 RUDDER = .000
 CONF16 = 1.000

RUN NO. 152/ 0 RV/L = 9.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-.050	-.03875	-.00768	-.00020	.00167	-.00010	.10753	.01756	-.03866	.10763
2.990	.980	.01599	-.00777	-.00029	.00176	-.00010	.10567	.01786	.01236	.10616
2.990	4.140	.07505	-.00799	-.00049	.00166	.00000	.10282	.01825	.06740	.10802
2.990	6.280	.13677	-.00855	-.00069	.00176	.00000	.09919	.01835	.12509	.11351
2.990	8.460	.20024	-.00986	-.00088	.00176	.00000	.09566	.01795	.18396	.12411
2.990	10.640	.26755	-.01091	-.00010	.00157	.00000	.09281	.01776	.24577	.14069
2.990	12.820	.33789	-.01298	-.00020	.00137	.00000	.09056	.01746	.30934	.16335
2.990	15.010	.41079	-.01569	.00020	.00118	-.00010	.08830	.01727	.37390	.19171
2.990	17.180	.48673	-.01902	.00039	.00079	-.00020	.08634	.01766	.43944	.22624
2.990	19.400	.56473	-.02193	.00098	.00030	-.00020	.08359	.01727	.50488	.26647
2.990	21.500	.64390	-.02579	.00147	.00001	-.00010	.08153	.01766	.56924	.31189
GRADIENT		.02716	-.00007	-.00007	-.00000	.00002	-.00013	.00016	.02531	.00010

MSFC 581 (0449) ORB 34-0 (BCFM) (NE) (VR)

(R92126) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
AILRON = -.670 BDPLAP = -11.700
SPDRK = 25.550 RUDDER = .000
CONFIG = 1.000

RUN NO. 150/ 0 RNVL = 2.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.050	-.05592	-.02652	.00255	.00228	.00039	.08683	.00098	-.05592	.08673
4.959	1.970	-.01540	-.02114	.00069	.00324	.00118	.08506	.00157	-.01835	.08447
4.959	3.980	.02590	-.02183	.00226	.00247	.00020	.07986	.00186	.02031	.08143
4.959	5.970	.07868	-.02147	.00049	.00344	.00049	.08025	.00235	.06995	.08801
4.959	8.000	.12813	-.02126	.00206	.00267	.00039	.07849	.00245	.11587	.09555
4.959	10.020	.17326	-.01058	.00186	.00257	.00078	.07643	.00265	.15727	.10537
4.959	12.030	.23105	-.01082	.00110	.00294	-.00049	.07466	.00285	.21035	.12117
4.959	14.050	.29829	-.01790	.00167	.00266	-.00020	.07398	.00265	.26941	.14363
4.959	16.040	.35349	-.01418	.00324	.00238	-.00059	.07280	.00285	.31964	.16767
4.959	18.080	.41883	-.01353	.00471	.00210	-.00039	.07172	.00275	.37586	.19818
4.959	20.000	.49438	-.01870	.00118	.00099	-.00108	.06907	.00265	.44091	.23399
	GRADIENT	.02182	.00118	-.00007	.00005	-.00005	-.00178	.00022	.01940	-.00135

MSFC 581 (0449) ORB 34-0 (BCFM) (NE) (VR)

(R92127) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
AILRON = -.670 BDPLAP = -11.700
SPDRK = 25.550 RUDDER = .000
CONFIG = 1.000

RUN NO. 151/ 0 RNVL = 3.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.040	-.05033	-.02527	-.00235	.00175	-.00049	.08683	.00373	-.05033	.08673
4.959	1.980	-.00069	-.02351	-.00255	.00165	.00000	.08388	.00412	-.00363	.08379
4.959	3.980	.03601	-.02032	-.00265	.00116	.00010	.08182	.00402	.03022	.08408
4.959	5.980	.07957	-.01604	-.00275	.00204	.00029	.07927	.00392	.07084	.08712
4.959	8.020	.13520	-.01515	-.00402	.00124	.00020	.07692	.00412	.12313	.09507
4.959	10.040	.18464	-.01040	-.00314	.00105	-.00029	.07515	.00402	.16875	.10825
4.959	12.070	.24459	-.01070	-.00324	.00115	-.00029	.07378	.00422	.22369	.12333
4.959	14.090	.30336	-.00792	-.00010	.00147	-.00029	.07348	.00422	.27628	.14311
4.959	16.100	.37204	-.00857	-.00029	.00029	-.00039	.07162	.00412	.33750	.17209
4.959	18.170	.43483	-.01037	-.00039	.00009	-.00108	.07064	.00412	.39107	.20270
4.959	20.080	.50704	-.00931	.00039	.00040	-.00078	.07034	.00392	.45200	.24037
	GRADIENT	.02188	.00126	-.00007	-.00015	-.00015	-.00127	.00007	.02041	-.00067

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TABULATED SOURCE DATA - 0449

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MSFC 581 (0449) ORB 34-0 (BCFM) (NE) (NR)

(R92128) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONF16 = 1.000

PARAMETRIC DATA

RUN NO. 147/ 0 RNVL = 9.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLN	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.990	.64812	-.02821	.00128	.00001	.00000	.08104	.01746	.57051	.31788
2.990	24.100	.72837	-.03006	.00157	-.00018	.00000	.07927	.01756	.63252	.36978
2.990	26.320	.81589	-.03436	.00235	-.00077	.00000	.07702	.01717	.69708	.43080
2.990	28.530	.90615	-.03834	.00265	-.00096	.00000	.07505	.01697	.76026	.49879
2.990	30.780	.99788	-.04326	.00343	-.00125	-.00010	.07309	.01717	.81991	.57346
2.990	33.010	1.09286	-.04851	.00373	-.00085	-.00009	.07192	.01766	.87711	.65577
2.990	35.250	1.19077	-.05385	.00520	-.00133	-.00009	.07015	.01805	.93176	.74476
2.990	37.500	1.28998	-.06347	.00520	-.00113	-.00078	.06868	.01815	.98081	.83924
2.990	39.720	1.38837	-.07214	.00471	-.00084	-.00088	.06711	.01815	1.02477	.93872
2.990	41.980	1.48765	-.08051	.00559	-.00113	-.00078	.06534	.01805	1.06205	1.04370
2.990	44.100	1.57909	-.08901	.00559	-.00094	-.00088	.06397	.01795	1.08923	1.14495
GRADIENT		.04237	-.00283	.00021	-.00004	-.00005	-.00076	.00004	.02390	.03764

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONF16 = 1.000

PARAMETRIC DATA

RUN NO. 148/ 0 RNVL = 2.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLN	CY	CYN	CBL	CAP	CAB	CL	CD
4.960	20.490	.50390	-.01633	.00275	-.00057	-.00020	.07496	.00177	.44582	.24665
4.960	22.410	.57346	-.01821	.00088	-.00068	-.00059	.07329	.00206	.50213	.28648
4.960	24.430	.65822	-.02412	.00235	-.00155	-.00029	.07182	.00206	.56933	.33770
4.960	26.430	.74770	-.02549	.00392	-.00046	-.00039	.07250	.00255	.63713	.39784
4.960	28.470	.82972	-.03036	.00383	-.00124	-.00039	.07025	.00226	.69580	.45739
4.960	30.500	.91920	-.03049	.00363	-.00046	-.00049	.07005	.00235	.75634	.52685
4.960	32.520	1.01344	-.03914	.00520	-.00143	-.00039	.07015	.00265	.81677	.60407
4.960	34.540	1.10620	-.04075	.00677	-.00034	-.00039	.07064	.00235	.87103	.68350
4.960	36.550	1.20460	-.04769	.00491	-.00006	-.00078	.06819	.00265	.92705	.77213
GRADIENT		.04371	-.00189	.00026	.00003	-.00002	-.00034	.00004	.03015	.03278

MSFC 581 (0449) ORB 34-0 (BCFM) (NE) (VR)

(092130) (22 MAY 74)

REFERENCE DATA

SREF = 2741.6000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 ALLRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 149/ 0 RN/L = 3.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	20.370	.51008	-.01217	.00471	-.00006	.00059	.07319	.00363	.45180	.24783
4.99	22.490	.58091	-.01297	.00441	-.00094	.00078	.07064	.00373	.50969	.28756
4.99	24.530	.66127	-.01575	.00638	-.00201	.00059	.07054	.00383	.57228	.33868
4.99	26.540	.74652	-.01497	.00618	-.00132	.00118	.07005	.00383	.63644	.39827
4.99	28.600	.83443	-.01685	.00608	-.00054	.00137	.06956	.00373	.69924	.46063
4.99	30.630	.92155	-.02291	.00373	-.00105	.00049	.06936	.00343	.75751	.52931
4.99	32.670	1.02251	-.02865	.00579	-.00093	.00029	.06838	.00373	.82374	.60956
4.99	34.700	1.11071	-.03372	.00667	-.00161	.00059	.06760	.00353	.87455	.68805
4.99	36.720	1.21206	-.03840	.00755	-.00170	.00059	.06779	.00363	.93087	.77920
4.99	38.780	1.30988	-.04321	.00844	-.00238	.00066	.06672	.00383	.97924	.87250
4.99	40.720	1.40514	-.04972	.00942	-.00208	.00088	.06711	.00373	1.02114	.96757
4.99	GRADIENT	.54469	-.00191	.00020	-.00007	-.00001	-.00027	-.00000	.02872	.03587

MSFC 581 (0449) ORB 34-0 (BCFM) (NE) (VR)

(092131) (22 MAY 74)

REFERENCE DATA

SREF = 2741.6000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 ALLRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 83/ 0 RN/L = 9.41 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.470	.63615	-.01727	.14687	.01239	.02266	.08182	.01923	.56011	.31258
2.990	-8.480	.63674	-.03200	.11744	.01097	.01805	.08143	.01933	.56070	.31248
2.990	-6.350	.63507	-.03116	.08712	.00325	.01334	.08163	.01923	.55913	.31189
2.990	-4.270	.63497	-.02932	.05700	.00612	.00824	.08202	.01894	.55884	.31238
2.990	-2.140	.63223	-.02772	.02884	.00612	.00353	.08369	.01894	.55570	.31288
2.990	-.030	.63036	-.02775	.00795	.00164	.00059	.08271	.01844	.55433	.31121
2.990	2.070	.62879	-.02652	-.01334	-.00354	-.00226	.08359	.01844	.55256	.31140
2.990	4.170	.62663	-.02752	-.03885	-.00640	-.00628	.08281	.01884	.55089	.30974
2.990	6.260	.62447	-.02843	-.06858	-.00753	-.01148	.08182	.01884	.54932	.30797
2.990	8.390	.62173	-.02876	-.09968	-.00867	-.01619	.08231	.01933	.54667	.30738
2.990	10.400	.61751	-.02902	-.12980	-.01019	-.02044	.08281	.01933	.54265	.30620
2.990	GRADIENT	-.00095	-.00023	-.01109	-.00184	-.00165	.00007	-.00003	-.00001	-.00032



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MSFC 581 (0A49) RB 34-0 (BCFM) (NE) (VR)

(R92132) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .5040

XMRP = 1081.3900 IN.

YMRP = .0000 IN.

ZMRP = .0000 IN.

RUN NO. 81/ 0 RV/L = 1.42 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDBRK = 25.550 RUDDER = .000
 CONFIG = 1.000

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-9.930	.49929	-.03013	.10939	.01140	.01570	.08104	.00000	.43993	.24950
4.959	-8.020	.49879	-.03256	.09007	.00957	.01305	.07672	.00078	.44101	.24328
4.959	-6.010	.67412	-.17677	.07044	-.00168	.02463	.06995	-.00549	.60780	.30002
4.959	-4.020	.45926	-.10466	.01531	-.00125	.02286	.03257	-.03493	.41942	.19004
4.959	-2.000	.12234	-.01043	.00912	-.00222	.00491	.01629	-.05141	.10910	.05769
4.959	.000	.17581	-.05832	.00716	-.00112	.00098	-.00128	-.06279	.16532	.05965
4.959	1.990	.26716	-.07195	.00971	-.00012	-.00353	-.00118	-.06985	.25097	.09144
4.959	3.990	.36134	-.09781	.00765	-.00111	-.00932	.00334	-.07358	.33770	.12853
4.959	5.970	.54020	-.14515	.01060	-.00119	-.01805	.00716	-.07604	.50409	.19436
4.959	8.000	.70473	-.17038	.00608	-.00289	-.02561	.01580	-.07810	.65528	.25990
4.959	9.900	.74240	-.14995	-.00540	-.00075	-.03306	.03002	-.08133	.68560	.28658
4.959	GRADIENT	-.00266	-.00236	-.00074	.00002	-.00364	-.00380	-.00479	-.00118	-.00450

MSFC 581 (0A49) RB 34-0 (BCFM) (NE) (VR)

(R92133) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .5040

XMRP = 1081.3900 IN.

YMRP = .0000 IN.

ZMRP = .0000 IN.

RUN NO. 82/ 0 RV/L = 3.0% GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDBRK = 25.550 RUDDER = .000
 CONFIG = 1.000

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-9.970	.49870	-.02018	.11646	.01244	.01727	.07613	.00461	.44062	.24557
4.959	-8.050	.50164	-.02051	.09360	.00989	.01432	.07515	.00491	.44375	.24567
4.959	-6.040	.50252	-.02031	.07192	.00658	.01109	.07270	.00500	.44542	.24371
4.959	-4.050	.50243	-.02032	.04915	.00462	.00775	.07123	.00500	.44591	.24224
4.959	-2.010	.49938	-.01669	.02865	.00328	.00402	.07162	.00491	.44287	.24155
4.959	.000	.50282	-.01847	.00697	.00035	.00010	.07231	.00481	.44582	.24341
4.959	2.010	.49811	-.01980	-.01364	-.00286	-.00235	.07084	.00471	.44199	.24037
4.959	4.020	.49840	-.01719	-.03532	-.00598	-.00598	.07044	.00471	.44238	.24008
4.959	6.010	.49605	-.01800	-.05690	-.00743	-.00971	.07152	.00481	.43983	.24037
4.959	8.050	.49487	-.01947	-.08290	-.00980	-.01364	.07231	.00491	.43846	.24057
4.959	9.950	.49222	-.01932	-.10459	-.01204	-.01619	.07427	.00510	.43532	.24155
4.959	GRADIENT	-.00046	.00016	-.01048	-.00128	-.00168	-.00012	-.00004	-.00039	-.00027

MSFC 581 (0449) ORB 34-0 (BCFM) (ME) (VR)

(R92134) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 40.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 72/ 0 RV/L = 9.45 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-8.430	1.54976	-.08861	.09321	.01705	.02414	.06848	.01894	1.06421	1.12876
2.990	-6.390	1.55790	-.09167	.07172	.01315	.01923	.06711	.01903	1.07071	1.13377
2.990	-4.250	1.56310	-.09284	.05013	.00924	.01374	.06554	.01884	1.07520	1.13642
2.990	-2.130	1.56379	-.09332	.03140	.00399	.00824	.06495	.01952	1.07608	1.13661
2.990	-.030	1.56202	-.09238	.01020	-.00011	.00157	.06485	.01894	1.07490	1.13514
2.990	2.060	1.55986	-.09086	-.01265	-.00344	-.00389	.06324	.01884	1.07314	1.13396
2.990	4.170	1.55633	-.08957	-.03130	-.00909	-.01148	.06505	.01884	1.07088	1.13122
2.990	6.250	1.54838	-.08573	-.05033	-.01376	-.01668	.06593	.01815	1.06480	1.12652
2.990	8.370	1.53563	-.08139	-.07142	-.01805	-.02178	.06721	.01854	1.05518	1.11768
2.990	10.370	1.52238	-.07763	-.09271	-.02176	-.02610	.06838	.01864	1.04537	1.10885
	GRADIENT	-.00083	.00043	-.00985	-.00210	-.00307	-.00003	-.00003	-.00055	-.00062

MSFC 581 (0449) ORB 34-0 (BCFM) (ME) (VR)

(R92135) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 40.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 70/ 0 RV/L = 1.45 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-9.890	.09193	-.04573	.00167	-.00489	.00981	-.00510	-.05769	.07339	.05553
4.959	-7.990	.06348	-.05373	.00706	-.00436	.00275	-.00697	-.06358	.05298	.03571
4.959	-5.990	.13186	-.07507	.00706	-.00396	.00226	-.01128	-.07221	.10792	.07682
4.959	-4.010	.22281	-.11066	.00952	-.00443	.00353	-.01501	-.07957	.17954	.13265
4.959	-1.990	.34368	-.15148	.00971	-.00502	.00098	-.01668	-.08948	.27294	.20976
4.959	.000	.43630	-.17834	.01452	-.00704	-.00088	-.01982	-.09782	.34535	.26735
4.959	1.990	.47417	-.17928	.01246	-.00274	-.00491	-.01344	-.10410	.36998	.29678
4.959	3.990	.46799	-.15801	.01717	-.00290	-.00638	-.01077	-.11077	.36242	.29610
4.959	5.990	.43767	-.14660	.01962	-.00651	-.01118	-.01462	-.11734	.34300	.27216
4.959	7.990	.41903	-.13558	.02198	-.00580	-.01128	-.01432	-.12136	.32867	.26039
4.959	9.890	.39274	-.12372	.03189	-.00337	-.01413	-.00657	-.12696	.30355	.24930
	GRADIENT	.03108	-.00614	.00090	.00027	-.00129	.00076	-.00386	.02318	.02073



MSFC 581 (0449) ORB 34-0 (BCFM) (WE) (VR)

(R92136) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7500 IN.
 SCALE = .0040

ALPHA = 40.000 ELEVTR = 4.160
 ALLRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 71/ 0 RV/L = 3.15 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-9.970	1.33802	-.07350	.09625	.01865	.02649	.07123	.00383	.96659	.92901
4.99	-8.050	1.35206	-.07348	.07996	.01508	.02217	.06897	.00412	.97797	.93607
4.99	-6.040	1.35874	-.07570	.06152	.01061	.01727	.06750	.00402	.98405	.93931
4.99	-4.050	1.36580	-.07404	.04435	.00870	.01236	.06721	.00412	.98945	.94383
4.99	-2.010	1.36943	-.07282	.02708	.00483	.00677	.06554	.00402	.99327	.94500
4.99	.000	1.36698	-.07199	.01403	.00051	.00186	.06564	.00412	.99131	.94343
4.99	2.000	1.36482	-.07280	-.00098	-.00374	-.00265	.06495	.00422	.99023	.94147
4.99	4.010	1.36138	-.07498	-.01825	-.00849	-.00824	.06475	.00422	.98778	.93902
4.99	6.010	1.35599	-.07091	-.03552	-.01099	-.01344	.06485	.00441	.98366	.93549
4.99	8.040	1.34343	-.06898	-.05278	-.01446	-.01835	.06564	.00422	.97375	.92783
4.99	9.950	1.33637	-.06542	-.07015	-.01824	-.02315	.06603	.00422	.96806	.92352
4.99	GRADIENT	-.00067	-.00009	-.00761	-.00213	-.00292	-.00027	.00002	-.00031	-.00065

MSFC 581 (Q49) CRB 34-0 (BCFM) (WE) (INVERTED)

(R92137) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BRP = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = -11.700
 SPDRBK = 25.590 RUDDER = .000
 CONFIG = 1.000

RUN NO. 159/ 0 RV/L = 4.56 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.593	.060	-.03875	.03091	.01481	.00110	.00137	.06269	.03238	-.03885	.06259
.593	2.050	.05337	.02996	.01413	.00120	.00118	.06073	.03218	.03121	.06259
.593	4.140	.15413	.02964	.01491	.00130	.00049	.05563	.03287	.14972	.06662
.593	6.230	.25715	.02567	.01501	.00130	.00128	.04680	.03247	.25057	.07447
.593	8.340	.37164	.02209	.01717	.00034	.00157	.03885	.03336	.36203	.09232
.593	10.440	.48074	.01957	.01835	-.00083	.00069	.03257	.03385	.46681	.11920
.593	12.550	.59023	.01368	.01589	.00003	.00000	.03522	.03542	.56845	.16267
.593	14.660	.70777	.00733	.01805	-.00024	-.00098	.03444	.03748	.67598	.21241
.593	16.740	.82011	.00468	.01707	.00024	-.00285	.03326	.04072	.77576	.26814
.593	18.860	.95893	-.00529	.01589	.00121	-.00137	.03218	.04346	.89703	.34044
.593	20.880	1.07274	-.00589	.01560	.00121	-.00088	.02924	.04690	.99180	.40981
GRADIENT		.04728	-.00031	.00003	.00005	-.00022	-.00174	.00012	.04623	.00099

RUN NO. 160/ 0 RV/L = 5.88 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
.901	.050	-.05386	.04972	.02325	-.00059	.00128	.07025	.02767	-.05396	.07025
.901	2.140	.07319	.03695	.02257	-.00021	.00069	.07074	.02718	.07054	.07339
.901	4.320	.19485	.02661	.01864	.00074	.00285	.07044	.02698	.18896	.08487
.901	6.500	.31219	.01775	.01982	.00016	.00275	.07211	.02786	.30198	.10704
.901	8.640	.41128	.01092	.02051	.00027	.00334	.07584	.03022	.39519	.13686
.901	10.810	.52195	.00224	.01982	.00036	.00383	.07947	.03444	.49772	.17591
.901	13.000	.64361	-.01448	.02178	-.00012	.00294	.08124	.03699	.60878	.22399
.901	15.170	.75810	-.01981	.02129	.00145	.00098	.08379	.04199	.70973	.27932
.901	17.310	.85808	-.01947	.02080	.00302	.00059	.08693	.04690	.79332	.33848
.901	19.470	.94471	-.00668	.01756	.00426	.00098	.09095	.05180	.86043	.40068
.901	21.490	.98886	.02130	.01481	.00434	.00108	.09252	.05955	.88614	.44837
GRADIENT		.05823	-.00541	-.00109	.00031	.00037	.00004	-.00016	.05687	.00344

NSFC 581(0449) CRB 34-0 (BCFM) (NE) (INVERTED)

(R92137) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 461.6480 IN. YMRP = .0000 IN.
 BRFP = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 161/ 0 RN/L = 6.26 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.97	.100	-.02816	.05835	.02561	-.00146	-.00088	.16649	.05004	-.02845	.16649
1.97	2.210	.10243	.02959	.02384	-.00088	-.00039	.16502	.04788	.09595	.16885
1.97	4.430	.23282	.00410	.02139	.00518	.00029	.16237	.04592	.21957	.17984
1.97	6.650	.36154	-.011783	.02011	.00056	.00147	.15815	.04533	.34084	.19897
1.97	8.870	.49153	-.03654	.01932	.00055	.00304	.15384	.04719	.46191	.22781
1.97	11.100	.61692	-.04953	.01933	.00065	.00245	.15109	.05072	.57630	.26706
1.97	13.350	.74437	-.06413	.02139	.00227	.00088	.15040	.05426	.68942	.31817
1.97	15.570	.86965	-.07819	.02266	-.00001	.00098	.15266	.05838	.79676	.38047
1.97	17.760	.99062	-.08999	.02158	.00106	.00186	.15286	.06210	.89673	.44788
1.97	19.960	1.08923	-.09441	.01884	.00221	.00206	.15089	.06348	.97228	.51371
1.97	22.090	1.17429	-.08764	.01540	.00356	.00324	.14766	.06564	1.03281	.57787
GRADIENT		.06026	-.01252	-.00098	.00038	.00027	-.00095	-.00095	.05727	.00310

RUN NO. 302/ 0 RN/L = 6.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
1.97	.020	-.02973	.01674	.02001	.00046	.00010	.13392	.02865	-.02973	.13392
1.97	2.080	.04807	.00599	.01835	.00054	.00029	.13127	.02835	.04327	.13294
1.97	4.250	.13579	-.00402	.01688	.00122	.00020	.13019	.02835	.12578	.13991
1.97	6.410	.21506	-.01330	.01609	.00141	.00069	.12676	.02806	.19956	.15001
1.97	8.570	.29365	-.02104	.01550	.00121	.00098	.12225	.02826	.27216	.16473
1.97	10.740	.37527	-.02631	.01511	.00130	.00137	.11901	.02894	.34653	.16690
1.97	12.940	.46544	-.03087	.01481	.00139	.00147	.11665	.03041	.42737	.21800
1.97	15.150	.55521	-.03553	.01481	.00159	.00147	.11391	.03100	.50615	.25509
1.97	17.350	.64871	-.04187	.01344	.00227	.00128	.11008	.03189	.58631	.29855
1.97	19.490	.73220	-.04905	.01177	.00304	.00128	.10468	.03247	.65528	.34309
1.97	21.590	.81393	-.05384	.01079	.00313	.00118	.10105	.03257	.71954	.39352
GRADIENT		.03914	-.00491	-.00079	.00018	.00002	-.00088	-.00007	.03677	.00143

MSFC 581 (OA49) CRB 34-0 (BCFN) (ME) (VR) (INVERTED)

(R92137) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 ALLRON = -.670 BCFAP = -11.700
 SPDRK = 25.550 RUDDER = .000
 CONFIG = 1.000

RUN NO. 156/ 0 RVL = 4.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.020	-.03767	-.00863	.01717	.00073	.00098	.10782	.01756	-.03797	.10782
2.990	1.960	.01472	-.00818	.01619	.00092	.00128	.10616	.01795	.01099	.10655
2.990	4.040	.07211	-.00813	.01452	.00159	.00098	.10262	.01835	.06465	.10753
2.990	6.110	.12784	-.00763	.01315	.00178	.00098	.09909	.01805	.11636	.11214
2.990	8.180	.19151	-.00894	.01344	.00188	.00128	.09546	.01795	.17601	.12176
2.990	10.250	.25568	-.01149	.01364	.00188	.00137	.09291	.01776	.23507	.13696
2.990	12.340	.32229	-.01265	.01383	.00178	.00157	.09065	.01805	.29541	.15747
2.990	14.410	.38999	-.01515	.01256	.00216	.00157	.08899	.01825	.35555	.18337
2.990	16.470	.45945	-.01684	.01236	.00255	.00157	.08693	.01805	.41589	.21369
2.990	18.550	.53225	-.02042	.01148	.00245	.00128	.08506	.01825	.47750	.25008
2.990	20.570	.60554	-.02302	.01128	.00264	.00098	.08222	.01815	.53804	.28982
GRADIENT		.02736	.00012	-.00066	.00022	-.00000	-.00130	.00020	.02553	-.00007

RUN NO. 155/ 0 RVL = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.04042	-.02328	.01138	.00304	.00078	.08428	.00530	-.04052	.08428
4.959	1.960	-.00010	-.02128	.01187	.00206	.00088	.08173	.00540	-.00285	.08163
4.959	3.990	.04415	-.01932	.01040	.00273	.00108	.07849	.00540	.03856	.08133
4.959	6.020	.08555	-.01875	.01099	.00244	.00128	.07545	.00559	.07721	.08398
4.959	8.050	.13559	-.01757	.01011	.00205	.00108	.07329	.00559	.12382	.09154
4.959	10.090	.18739	-.01316	.01128	.00225	.00137	.07241	.00569	.17179	.10410
4.959	12.150	.24537	-.01378	.01050	.00166	.00118	.07084	.00579	.22497	.12087
4.959	14.190	.30267	-.01383	.00971	.00194	.00089	.06995	.00549	.27628	.14206
4.959	16.210	.36909	-.01326	.01020	.00234	.00088	.06917	.00569	.33505	.16944
4.959	18.250	.43434	-.01434	.01079	.00205	.00088	.06878	.00559	.39087	.20142
4.959	20.220	.50292	-.01596	.01060	.00185	.00098	.06750	.00569	.44856	.23713
GRADIENT		.02136	.00100	-.00025	-.00007	.00007	-.00146	.00002	.01997	-.00074

MSFC 581(0449) ORB 34-0 (BCFN) (WE) (INVERTED)

(H92138) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPCBRK = 25.500 RUDDER = .000
 CONFIC = 1.000

RUN NO. 157/ 0 RN/L = 4.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	21.000	.61280	-.02339	.01128	.00255	.00069	.08124	.01825	.54285	.29380
2.990	23.010	.69197	-.02609	.01079	.00313	.00078	.07927	.01805	.60593	.34358
2.990	25.100	.77056	-.03054	.01099	.00244	.00069	.07682	.01795	.66519	.39656
2.990	27.190	.85680	-.03458	.01158	.00255	.00098	.07535	.01805	.72759	.45867
2.990	29.280	.94275	-.04056	.01138	.00225	.00088	.07368	.01805	.78616	.52538
2.990	31.380	1.03291	-.04599	.01246	.00216	.00088	.07172	.01844	.84444	.59916
2.990	33.500	1.12523	-.05244	.01413	.00129	.00137	.07084	.01874	.89918	.68020
2.990	35.590	1.21844	-.06034	.01589	.00042	.00196	.07005	.01884	.94991	.76615
2.990	37.670	1.30988	-.06816	.01766	-.00044	.00245	.06829	.01884	.99504	.85464
2.990	39.770	1.40308	-.07654	.01746	-.00035	.00216	.06701	.01884	1.03546	.94903
2.990	41.780	1.49256	-.08488	.01619	-.00003	.00177	.06632	.01874	1.06872	1.04400
GRADIENT		.04256	-.00299	.00036	-.00018	.00008	-.00071	.00005	.02568	.03620

RUN NO. 158/ 0 RN/L = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.700	.52597	-.01559	.00854	.00144	.00029	.06730	.00559	.46818	.24901
4.959	22.690	.60054	-.01749	.00844	.00184	.00010	.06632	.00540	.52862	.29257
4.959	24.700	.67736	-.02217	.00893	.00135	-.00010	.06564	.00559	.58788	.34270
4.959	26.750	.75948	-.02646	.01011	.00155	.00000	.06534	.00549	.64871	.40029
4.959	28.810	.85033	-.02820	.00991	.00126	.00000	.06564	.00540	.71336	.46740
4.959	30.870	.94118	-.03546	.01109	.00048	.00039	.06554	.00530	.77419	.53922
4.959	32.950	1.03437	-.04276	.01158	.00010	.00049	.06554	.00530	.83267	.61790
4.959	35.010	1.13043	-.04859	.01207	.00020	.00029	.06465	.00530	.88869	.70159
4.959	37.040	1.22324	-.05688	.01324	.00099	.00049	.06475	.00520	.93725	.78861
4.959	39.100	1.31890	-.06531	.01177	.00069	.00010	.06485	.00530	.98248	.88221
4.959	41.080	1.40995	-.07401	.01168	.00019	.00000	.06465	.00500	1.02025	.97532
GRADIENT		.04374	-.00287	.00021	-.00007	.00001	-.00010	-.00002	.02761	.03586

MSFC 581(OM49) ORB 34-0 (BCFM) (NE) (VR)

(R92139) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVLT = 15.110
 ELEVRT = 4.820 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 376/ 0 RW/L = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.03934	-.02771	.00265	.00169	.00235	.08457	.00510	-.03934	.08457
4.959	1.960	-.00108	-.02581	.00314	.00140	.00275	.08349	.00540	-.00392	.08359
4.959	3.990	.04464	-.02501	.00235	.00188	.00324	.08094	.00540	.03885	.08388
4.959	6.020	.09291	-.02550	.00216	.00110	.00343	.07751	.00549	.08428	.08683
4.959	8.090	.14393	-.02691	.00206	.00070	.00383	.07584	.00540	.13196	.09527
4.959	10.090	.19485	-.02735	.00314	.00022	.00422	.07545	.00549	.17856	.10841
4.959	12.130	.25371	-.02487	.00363	-.00007	.00491	.07505	.00569	.23223	.12676
4.959	14.150	.31484	-.02834	.00343	-.00105	.00510	.07437	.00559	.28717	.14903
4.959	16.210	.38106	-.03028	.00392	-.00075	.00598	.07417	.00579	.34515	.17758
4.959	18.250	.45141	-.03235	.00373	-.00134	.00667	.07427	.00589	.40539	.21192
4.959	20.200	.52185	-.03761	.00422	-.00242	.00736	.07535	.00589	.46367	.25097
GRADIENT		.02122	.02068	-.00008	.00005	.00022	-.00092	.00007	.01976	-.00017

(R92140) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVLT = 12.480
 ELEVRT = 4.820 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 376/ 0 RW/L = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.04425	-.02856	.00334	.00170	.00216	.08345	.00500	-.04425	.08345
4.959	1.950	-.00235	-.02683	.00383	.00072	.00265	.08379	.00549	-.00520	.08359
4.959	3.980	.03856	-.02376	.00294	.00120	.00324	.08222	.00559	.03277	.08467
4.959	6.020	.08506	-.02321	.00285	.00071	.00343	.07810	.00549	.07643	.08663
4.959	8.090	.13471	-.02222	.00196	.00031	.00392	.07613	.00549	.12274	.09428
4.959	10.090	.18778	-.02079	.00177	-.00028	.00422	.07545	.00540	.17169	.10724
4.959	12.120	.24498	-.02114	.00294	-.00076	.00471	.07486	.00559	.22379	.12470
4.959	14.160	.30669	-.02112	.00275	-.00057	.00530	.07486	.00559	.27903	.14766
4.959	16.210	.37439	-.02323	.00314	-.00203	.00589	.07358	.00559	.33887	.17523
4.959	18.250	.44238	-.02408	.00363	-.00203	.00677	.07358	.00579	.39755	.20849
4.959	20.200	.51410	-.02545	.00343	-.00252	.00775	.07398	.00579	.45690	.24704
GRADIENT		.02096	.00122	-.00010	-.00012	.00027	-.00082	.00015	.01949	-.00019

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581 (0449) ORB 34-0 (BCFM) (NE) (VR)

(R92141) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVLT = 9.250
 ELEVRT = 4.820 BDPLAP = -11.700
 SPDPRK = 55.000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 377/ 0 RN/L = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.04621	-.02530	.00402	.00249	.00108	.08457	.00520	-.04631	.08457
4.959	1.950	-.01060	-.02367	.00392	.00160	.00137	.08202	.00549	-.01334	.08153
4.959	3.980	.03395	-.02025	.00245	.00188	.00147	.08084	.00569	.02826	.08300
4.959	6.010	.08045	-.01980	.00294	.00110	.00167	.07643	.00549	.07201	.08438
4.959	8.050	.13108	-.01831	.00285	.00150	.00167	.07466	.00549	.11930	.09232
4.959	10.080	.18062	-.01636	.00265	.00120	.00196	.07368	.00549	.16492	.10419
4.959	12.120	.23645	-.01576	.00314	.00081	.00216	.07201	.00559	.21604	.12009
4.959	14.160	.29590	-.01568	.00294	.00022	.00186	.07074	.00579	.26961	.14099
4.959	16.200	.36154	-.01638	.00206	-.00008	.00226	.06985	.00579	.32769	.16056
4.959	18.250	.42865	-.01714	.00255	-.00076	.00245	.06936	.00579	.38538	.20015
4.959	20.190	.49781	-.01700	.00304	-.00017	.00314	.06966	.00579	.44307	.23733
4.959	GRADIENT	.02031	.00128	-.00040	-.00015	.00010	-.00094	.00012	.01889	-.00039

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVLT = -1.720
 ELEVRT = 4.820 BDPLAP = -11.700
 SPDPRK = 55.000 RUDDER = .000
 CONFIG = 1.000

MSFC 581 (0449) ORB 34-0 (BCFM) (NE) (VR)

(R92142) (22 MAY 74)

RUN NO. 378/ 0 RN/L = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.04935	-.02236	.00481	.00239	.00020	.08418	.00510	-.04935	.08408
4.959	1.950	-.01217	-.02002	.00530	.00152	.00029	.08182	.00540	-.01491	.08133
4.959	3.980	.02924	-.01752	.00431	.00180	-.00010	.07927	.00540	.02364	.08114
4.959	6.010	.07358	-.01401	.00373	.00229	-.00010	.07613	.00540	.06515	.08349
4.959	8.030	.12176	-.01343	.00294	.00199	-.00020	.07368	.00540	.11028	.08997
4.959	10.080	.17169	-.01053	.00206	.00149	-.00049	.07182	.00549	.15649	.10086
4.959	12.120	.22546	-.00868	.00265	.00189	-.00078	.07103	.00569	.20554	.11675
4.959	14.140	.28531	-.00811	.00177	.00090	-.00088	.06907	.00569	.25970	.13667
4.959	16.200	.35006	-.00650	.00363	.00101	-.00108	.06838	.00559	.31700	.16335
4.959	18.240	.41452	-.00634	.00216	.00051	-.00128	.06681	.00569	.37272	.19318
4.959	20.190	.48594	-.00568	.00196	.00060	-.00128	.06760	.00579	.43267	.23125
4.959	GRADIENT	.01990	.00122	-.00008	-.00015	-.00008	-.00124	.00007	.01848	-.00074

(R92143) (22 MAY 74)

MSFC 581(0449) ORB 34-0 (BCFM) (WE) (VR)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
LREF = 401.6480 IN.
BREF = 936.7000 IN.
SCALE = .0040

MACH ALPHA CN CLM CY CYN CBL CAP CAB CL CD

4.959 .030 -.04984 -.02072 .00216 .00237 -.00108 .08379 .00540 -.04994 .08369

4.959 1.910 -.01511 -.01543 .00265 .00247 -.00059 .08143 .00579 -.01786 .08084

4.959 3.950 .03140 -.01381 .00110 .00236 -.00088 .07888 .00579 .02590 .08094

4.959 5.990 .07466 -.01274 .00158 .00207 -.00118 .07476 .00579 .06642 .08222

4.959 8.030 .12519 -.01106 .00298 .00266 -.00137 .07309 .00569 .11371 .08987

4.959 10.080 .17474 -.00659 .00368 .00256 -.00167 .07152 .00598 .15953 .10105

4.959 12.120 .22958 -.00659 .00368 .00256 -.00167 .07152 .00598 .15953 .10105

4.959 14.160 .28815 -.00594 .00359 .00236 -.00245 .06878 .00598 .26254 .13716

4.959 16.220 .35173 -.00580 .00377 .00227 -.00294 .06740 .00608 .31886 .13296

4.959 18.290 .41746 -.00639 .00369 .00167 .00168 .06603 .00608 .37557 .19367

4.959 20.190 .48486 -.00541 .00220 .00157 .00402 .06324 .00628 .43247 .22870

GRADIENT .02175 .00175 -.00026 -.00000 .00005 -.00125 .00010 .01938 -.00069

PARAMETRIC DATA

BETA = .000
ELEVNT = -4.940
ELEVRT = 4.820
BDCLAP = -11.700
SPDRBK = 55.000
RUDDER = .000
CONFIG = 1.000

RUN NO. 379/ 0 RVL = 5.07 GRADIENT INTERVAL = -5.00/ 5.00

REFERENCE DATA

SREF = 2741.8000 SQ. FT
LREF = 401.6480 IN.
BREF = 936.7000 IN.
SCALE = .0040

MACH ALPHA CN CLM CY CYN CBL CAP CAB CL CD

4.959 .030 -.05533 -.01481 .00226 .00208 -.00343 .08594 .00553 -.05533 .08594

4.959 1.910 -.01874 -.01365 .00343 .00170 -.00334 .08300 .00579 -.02149 .08231

4.959 3.950 .02894 -.01056 .00069 .00246 -.00314 .08035 .00589 .02335 .08222

4.959 5.990 .07074 -.01019 .00049 .00197 -.00334 .07574 .00589 .06250 .08281

4.959 8.030 .11822 -.00691 .00108 .00217 -.00343 .07299 .00589 .10694 .08879

4.959 10.080 .16663 -.00493 .00098 .00177 -.00392 .07172 .00589 .15443 .10027

4.959 12.120 .22379 -.00291 .00088 .00197 -.00461 .07074 .00618 .20387 .11616

4.959 14.160 .28452 -.00271 .00069 .00177 -.00510 .06887 .00618 .25901 .13637

4.959 16.240 .34663 .00059 .00059 .00197 -.00569 .06770 .00618 .31386 .16198

4.959 18.290 .41256 -.00047 -.00010 .00167 -.00657 .06603 .00618 .37096 .19220

4.959 20.210 .47574 .00073 -.00020 .00245 -.00706 .06632 .00638 .42354 .22664

GRADIENT .02153 .00109 -.00041 .00010 .00008 -.00142 .00007 .00010 -.00094

PARAMETRIC DATA

BETA = .000
ELEVNT = -15.940
ELEVRT = 4.820
BDCLAP = -11.700
SPDRBK = 55.000
RUDDER = .000
CONFIG = 1.000

RUN NO. 380/ 0 RVL = 5.03 GRADIENT INTERVAL = -5.00/ 5.00



DATE 18 JUL 74

TABULATED SOURCE DATA - Q449

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MSFC 581 (Q449) ORB 34-0 (BCFM) (NE) (NR)

(R92145) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 ELEVNT = -24.070
 ELEVNT = 4.820
 SPDRK = 55.000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 381/ 0 RN/L = 5.03 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.020	-.06575	-.01266	.00294	.00150	-.00481	.08663	.00569	-.06383	.08663
4.959	1.910	-.02610	-.01115	.00412	.00111	-.00422	.08467	.00569	-.02894	.08379
4.959	3.940	.01854	-.00938	.00137	.00166	-.00422	.08114	.00589	.01295	.08222
4.959	5.990	.06446	-.00768	.00186	.00168	-.00402	.07672	.00589	.05612	.08310
4.959	8.020	.11263	-.00555	.00339	.00157	-.00422	.07417	.00589	.10115	.08918
4.959	10.080	.16365	-.00416	.00167	.00139	-.00451	.07211	.00579	.14844	.09968
4.959	12.120	.21771	.00039	.00088	.00187	-.00500	.07064	.00589	.19799	.11479
4.959	14.180	.27530	-.00015	.00069	.00148	-.00549	.06897	.00598	.25008	.13431
4.959	16.240	.34035	-.00058	.00059	.00207	-.00598	.06819	.00598	.30768	.16071
4.959	18.280	.40598	-.00281	-.00010	.00186	-.00687	.06691	.00618	.36448	.19102
4.959	20.210	.46975	.00305	.00039	.00206	-.00775	.06701	.00628	.41766	.22516
GRADIENT		.02151	.00084	-.00041	.00005	.00015	-.00141	.00005	.02010	-.00112

MSFC 581 (Q449) ORB 34-0 (BCFM) (NE) (NR)

(R92146) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 ELEVNT = -33.960
 ELEVNT = 4.820
 SPDRK = 55.000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 382/ 0 RN/L = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.010	-.07967	-.00620	.00369	-.00221	-.00912	.09556	.00549	-.07967	.09556
4.959	1.900	-.03728	-.00369	.00491	-.00173	-.00775	.09095	.00579	-.04032	.08967
4.959	3.980	.01020	-.00448	.00275	-.00096	-.00755	.08644	.00579	.00422	.08693
4.959	5.990	.05661	-.00016	.00265	.00032	-.00657	.08173	.00589	.04778	.08712
4.959	8.020	.10635	-.00062	.00177	.00001	-.00667	.07819	.00589	.09438	.09232
4.959	10.080	.15855	.00137	.00098	.00069	-.00648	.07613	.00579	.14275	.10272
4.959	12.110	.21133	.00086	.00157	.00031	-.00697	.07339	.00598	.19122	.11616
4.959	14.180	.27137	.00075	.00147	.00090	-.00697	.07221	.00598	.24537	.13657
4.959	16.240	.33534	.00207	.00069	.00089	-.00755	.07044	.00608	.30218	.16139
4.959	18.280	.40373	.00393	.00049	.00108	-.00805	.06927	.00618	.36164	.19249
4.959	20.210	.46750	.00372	.00039	.00128	-.00873	.06868	.00638	.41491	.22605
GRADIENT		.02276	.00042	-.00075	.00032	.00039	-.00231	.00007	.02124	-.00217

MSFC 581(C049) ORB 34-0 (BCFN) (NE) (VR)

(R92147) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SA. FT XMRP = 1081.3900 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVLT = -33.960
ELEVLT = 4.820 BDFLAP = -11.700
SPDRK = 55.000 RUDDER = .000
CONFIG = 1.000

RUN NO. 383/ 0 RNVL = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

WICH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.680	.48417	.00474	.00029	-.00010	-.00854	.07103	.00618	.42806	.23772
4.959	22.608	.55619	.00550	.00078	-.00059	-.00922	.07035	.00628	.48633	.27873
4.959	24.650	.63281	.00730	.00069	-.00019	-.01011	.06956	.00628	.54618	.32720
4.959	26.720	.71258	.00909	-.00059	.00039	-.01128	.06907	.00618	.60534	.38214
4.959	28.780	.79882	.00502	-.00010	-.00000	-.01197	.06897	.00628	.66686	.44503
4.959	30.850	.88359	.00211	-.00020	-.00000	-.01334	.06829	.00598	.72347	.51175
4.959	32.930	.97493	.00019	-.00098	-.00001	-.01511	.06799	.00618	.78126	.58709
4.959	34.990	1.06686	-.00280	-.00039	.00039	-.01550	.06740	.00608	.83531	.66705
4.959	37.070	1.15506	-.00738	-.00049	.00009	-.01756	.06613	.00608	.88172	.74908
4.959	39.130	1.24885	-.00946	-.00059	.00058	-.01844	.06554	.00569	.92724	.83904
4.959	41.060	1.33391	-.01333	-.00069	.00009	-.01992	.06407	.00569	.96355	.92460
GRADIENT		.04192	-.00095	-.00006	.00002	-.00057	-.00030	-.00003	.02666	.03388

MSFC 581(C049) ORB 34-0 (BCFN) (NE) (VR)

(R92148) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SA. FT XMRP = 1081.3900 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVLT = -24.070
ELEVLT = 4.820 BDFLAP = -11.700
SPDRK = 55.000 RUDDER = .000
CONFIG = 1.000

RUN NO. 384/ 0 RNVL = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

WICH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.680	.48182	.00121	.00029	.00079	-.00765	.06829	.00618	.42659	.23419
4.959	22.590	.55207	.00204	.00147	.00031	-.00824	.06799	.00608	.48359	.27500
4.959	24.640	.62771	.00228	.00010	.00020	-.00961	.06691	.00618	.54265	.32249
4.959	26.720	.71179	.00363	.00000	.00086	-.01060	.06593	.00618	.60603	.37900
4.959	28.770	.79352	.00155	-.00010	.00039	-.01138	.06524	.00598	.66401	.43924
4.959	30.650	.89211	.00006	.00098	.00089	-.01217	.06544	.00608	.72376	.50861
4.959	32.930	.97159	-.00315	.00088	.00099	-.01374	.06515	.00618	.77998	.58288
4.959	34.990	1.06107	-.00666	.00078	.00089	-.01472	.06436	.00608	.83227	.66117
4.959	37.060	1.15368	-.01204	.00069	.00059	-.01609	.06338	.00598	.88251	.74615
4.959	39.120	1.24473	-.01465	.00059	.00089	-.01737	.06259	.00598	.92607	.83404
4.959	41.060	1.32891	-.01824	.00186	.00090	-.01805	.06132	.00589	.96168	.91910
GRADIENT		.04187	-.00103	.00004	.00002	-.00052	-.00031	-.00001	.02670	.03381

(R92149) (22 MAY 74)

NSFC 561(0449) ORB 34-0 (BCFN) (NR)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1061.3900 IN.
 LREF = 461.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVLT = -15.940
 ELEVRT = 4.820 BDFLAP = -11.700
 SPDRBK = 55.000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 385/ 0 RWL = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

MACI	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	20.690	.48457	.00010	.00029	.00118	-.00706	.06760	.00618	.42943	.23439
4.99	22.600	.55756	.00242	.00147	.00129	-.00765	.06760	.00628	.48069	.27667
4.99	24.650	.63456	.00161	.00069	.00106	-.00875	.06652	.00608	.54893	.32514
4.99	26.720	.71248	.00054	.00059	.00138	-.00971	.06505	.00598	.60711	.37851
4.99	28.770	.79735	-.00033	.00108	.00069	-.01060	.06465	.00618	.66774	.44052
4.99	30.890	.88378	-.00369	.00029	.00069	-.01138	.06407	.00638	.72582	.50831
4.99	32.910	.97434	-.00649	.00088	.00109	-.01266	.06348	.00618	.78341	.58268
4.99	34.990	1.06556	-.01210	.00078	.00079	-.01393	.06220	.00598	.83728	.66205
4.99	37.030	1.15761	-.01556	.00137	.00129	-.01491	.06191	.00608	.88633	.74721
4.99	39.130	1.25160	-.01783	.00186	.00129	-.01589	.06034	.00589	.93274	.83669
4.99	41.060	1.33391	-.02193	.00314	.00160	-.01658	.05887	.00589	.96708	.92067
4.99	GRADIENT	.04195	-.00122	.00008	.00001	-.00049	-.00041	-.00001	.02680	.03386

(R92150) (22 MAY 74)

NSFC 561(0449) ORB 34-0 (BCFN) (NR)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1061.3900 IN.
 LREF = 461.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVLT = -4.940
 ELEVRT = 4.820 BDFLAP = -11.700
 SPDRBK = 55.000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 386/ 0 RWL = 4.81 GRADIENT INTERVAL = -5.00/ 5.00

MACI	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	20.690	.48781	-.00608	.00147	.00099	-.00392	.06730	.00628	.44179	.23890
4.99	22.600	.57091	-.00626	.00128	.00119	-.00412	.06721	.00628	.50125	.28148
4.99	24.650	.64773	-.00784	.00245	.00051	-.00500	.06534	.00618	.56139	.32965
4.99	26.720	.73200	-.00908	.00177	.00100	-.00559	.06524	.00598	.62438	.38754
4.99	28.780	.81658	-.01240	.00216	.00051	-.00569	.06465	.00618	.68452	.44984
4.99	30.880	.90586	-.01581	.00275	.00041	-.00657	.06436	.00628	.74456	.51999
4.99	32.920	.99798	-.02014	.00265	.00090	-.00736	.06358	.00618	.80313	.59583
4.99	34.990	1.09256	-.02695	.00245	.00012	-.00785	.06269	.00608	.85896	.67804
4.99	37.070	1.18616	-.03087	.00294	.00042	-.00834	.06201	.00608	.90890	.76458
4.99	39.130	1.27837	-.03568	.00353	-.00007	-.00903	.06044	.00608	.95373	.85415
4.99	41.070	1.36776	-.04141	.00471	-.00004	-.00952	.05985	.00589	.99170	.94383
4.99	GRADIENT	.04293	-.00179	.00013	-.00005	-.00028	-.00036	-.00001	.02739	.03473

NSFC 581(0449) ORB 34-0 (BCFM) (NE) (VR)

(R92131) (22 MAY 74)

REFERENCE DATA

SREF = 2741.6000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

WARP = 1081.3900 IN.
 YWARP = .0000 IN.
 ZWARP = .0000 IN.

PARAMETRIC DATA

BETA = .000 ELEVLT = -.720
 ELEVLT = 4.820 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 WARPIC = 1.000

RUN NO. 387/ 0 RVL = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLN	CY	CYN	COL	CAP	CAB	CL	CD
4.99	20.690	.50076	-.05961	.03147	.00119	-.00294	.06779	.00628	.44454	.24037
4.99	22.600	.57051	-.01110	.00196	.00119	-.00324	.06740	.00638	.50076	.28148
4.99	24.650	.64684	-.01153	.00245	.00130	-.00383	.06583	.00638	.56041	.32965
4.99	26.720	.72994	-.01378	.00235	.00100	-.00432	.06544	.00628	.62251	.38675
4.99	28.780	.81599	-.01637	.00285	.00071	-.00451	.06485	.00618	.68393	.44974
4.99	30.850	.90419	-.02241	.00265	.00002	-.00510	.06407	.00618	.74329	.51881
4.99	32.930	.99788	-.02691	.00255	.00041	-.00579	.06416	.00618	.80235	.59642
4.99	34.990	1.09030	-.03414	.00304	.00012	-.00618	.06328	.00618	.85680	.67716
4.99	37.070	1.18537	-.03814	.00422	.00033	-.00628	.06259	.00618	.90801	.76448
4.99	39.150	1.27799	-.04536	.00412	.00003	-.00697	.06142	.00589	.95226	.85454
4.99	41.080	1.36727	-.05138	.00402	-.00007	-.00716	.06004	.00589	.99592	.94383
GRADIENT		.04282	-.00211	.00612	-.00007	-.00021	-.00034	-.00002	.02728	.03469

NSFC 581(0449) ORB 34-0 (BCFM) (NE) (VR)

(R92152) (22 MAY 74)

REFERENCE DATA

SREF = 2741.6000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

WARP = 1081.3900 IN.
 YWARP = .0000 IN.
 ZWARP = .0000 IN.

PARAMETRIC DATA

BETA = .000 ELEVLT = 9.250
 ELEVLT = 4.820 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 WARPIC = 1.000

RUN NO. 388/ 0 RVL = 4.80 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLN	CY	CYN	COL	CAP	CAB	CL	CD
4.99	20.690	.51449	-.02322	.00186	-.00018	.00186	.06327	.00608	.45680	.24665
4.99	22.600	.58729	-.02905	.00294	-.00017	.00235	.06956	.00628	.51547	.29002
4.99	24.650	.66568	-.02932	.00343	-.00005	.00245	.06868	.00618	.57630	.34005
4.99	26.720	.75192	-.03277	.00334	-.00115	.00226	.06809	.00618	.64596	.39902
4.99	28.780	.84032	-.03717	.00441	-.00104	.00294	.06327	.00628	.70306	.45533
4.99	30.860	.93503	-.04391	.00422	-.00183	.00304	.06917	.00646	.76346	.53904
4.99	32.920	1.02516	-.04930	.00471	-.00173	.00294	.06917	.00618	.82285	.61525
4.99	35.000	1.12033	-.05726	.00589	-.00172	.00285	.06866	.00628	.87770	.69963
4.99	37.070	1.21667	-.06520	.00441	-.00242	.00245	.06887	.00608	.92911	.78652
4.99	39.130	1.31213	-.07159	.00618	-.00299	.00235	.06829	.00618	.97453	.88123
4.99	41.070	1.40406	-.07759	.00667	-.00299	.00304	.06858	.00598	1.01329	.97434
GRADIENT		.04395	-.00278	.00020	-.00014	.00003	-.00002	-.00000	.02775	.03585

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TABULATED SOURCE DATA - OA49

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MSFC 581(OA49) ORB 34-0 (BCFM) (NE) (VR)

(R92153) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 YREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVLT = 12.480
 ELEVRT = 4.820 BDFLAP = -11.00
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 389/ 0 RN/L = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.690	.52362	-.03033	.00412	-.00262	.00795	.07925	.00638	.46318	.25348
4.959	22.600	.59681	-.03332	.00369	-.00339	.00834	.07535	.00608	.55195	.29894
4.959	24.650	.67853	-.03685	.00491	-.00398	.00942	.07535	.00628	.58523	.35163
4.959	26.730	.76742	-.04142	.00540	-.00427	.00991	.07584	.00618	.65126	.41295
4.959	28.790	.85817	-.04723	.00648	-.00505	.01060	.07623	.00618	.71542	.48015
4.959	30.860	.94383	-.05225	.00697	-.00524	.01138	.07702	.00608	.77066	.55030
4.959	32.940	1.03037	-.05873	.00677	-.00456	.01148	.07810	.00618	.83051	.63134
4.959	35.020	1.13622	-.06649	.00726	-.00534	.01148	.07888	.00648	.88535	.71640
4.959	37.080	1.23629	-.07408	.00775	-.00572	.01256	.07937	.00608	.93833	.80882
4.959	39.160	1.32685	-.08027	.00863	-.00611	.01305	.07957	.00628	.97846	.89968
4.959	41.100	1.41809	-.08771	.00932	-.00699	.01305	.07918	.00618	1.01653	.99190
GRADIENT		.04414	-.00286	.00022	-.00017	.00025	.00025	-.00000	.02756	.03631

MSFC 581(OA49) ORB 34-0 (BCFM) (NE) (VR)

(R92154) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 YREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVLT = 15.110
 ELEVRT = 4.820 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 1.000

RUN NO. 390/ 0 RN/L = 4.81 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.700	.53421	-.03393	.00392	-.00399	.00932	.07829	.00628	.47201	.26215
4.959	22.600	.60436	-.03697	.00441	-.00507	.01020	.07849	.00608	.52774	.30473
4.959	24.660	.68982	-.03889	.00481	-.00496	.01109	.07908	.00608	.59386	.35977
4.959	26.730	.77576	-.04332	.00520	-.00555	.01197	.07967	.00618	.65695	.42021
4.959	28.790	.86877	-.04880	.00500	-.00663	.01246	.08055	.00648	.72249	.48908
4.959	30.870	.96207	-.05611	.00677	-.00681	.01354	.08281	.00608	.78322	.56482
4.959	32.930	1.05812	-.06145	.00520	-.00712	.01344	.08408	.00648	.84228	.64586
4.959	35.010	1.15496	-.06938	.00697	-.00769	.01423	.08516	.00618	.89703	.73240
4.959	37.090	1.25582	-.07705	.00677	-.00868	.01432	.08536	.00628	.95010	.82580
4.959	39.170	1.35255	-.08479	.00795	-.00886	.01511	.08624	.00628	.99396	.92136
4.959	41.110	1.44497	-.09289	.00834	-.00945	.01531	.08693	.00608	1.03144	1.01564
GRADIENT		.04504	-.00294	.00020	-.00026	.00029	.00048	.00000	.02797	.03718

MSFC 581(OA49) CRB 34-0 (BCFM) (WE) (VR)

(R92157) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 AILRON = -.670
 SPDGRK = 85.000
 CONFIC = 1.000

ELEVTR = 4.160

BDFLAP = -11.700

RUDDER = .000

RUN NO. 405/ 0 RVL = 4.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.010	-.06269	.00122	-.00118	.00333	.00010	.10145	.00520	-.06279	.10145
4.959	1.950	-.02757	.00236	.00059	.00256	.00020	.09880	.00549	-.03090	.09772
4.959	3.990	.01815	.001745	.00039	.00295	.00039	.09723	.00540	.01128	.09821
4.959	6.020	.06299	.00903	.00029	.00265	.00039	.09222	.00549	.05298	.09831
4.959	8.050	.11145	.00662	-.00167	.00264	-.00029	.08830	.00510	.09801	.10302
4.959	10.090	.16404	.00668	.00000	.00186	-.00010	.08555	.00618	.14648	.11293
4.959	12.130	.22144	.00392	.00000	.00167	-.00010	.08163	.00569	.19936	.12637
4.959	14.170	.28207	.00170	-.00020	.00147	.00000	.07898	.00569	.25411	.14569
4.959	16.230	.34702	-.00084	.00029	.00167	.00000	.07633	.00549	.31180	.17032
4.959	18.260	.41756	-.00368	.00137	.00050	.00000	.07398	.00618	.37331	.20113
4.959	20.230	.48771	-.00624	.00128	.00030	.00010	.07231	.00569	.43257	.23654
GRADIENT		.02033	.00157	.00039	-.00009	.00007	-.00106	.00005	.01863	-.00080

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 AILRON = -.320
 SPDGRK = 85.000
 CONFIC = 1.000

ELEVTR = -33.650

BDFLAP = -11.700

RUDDER = .000

RUN NO. 406/ 0 RVL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.010	-.11793	.03555	.00069	.00281	-.00078	.12342	.00549	-.11793	.12342
4.959	1.940	-.07505	.03275	.00128	.00266	-.00049	.11744	.00569	-.07898	.11479
4.959	3.970	-.03297	.03284	-.00147	.00244	-.00020	.11224	.00559	-.04062	.10969
4.959	6.000	.01933	.03271	.00020	.00196	.00010	.10547	.00569	.00814	.10694
4.959	8.040	.07064	.03237	-.00245	.00253	-.00049	.09988	.00589	.05592	.10880
4.959	10.080	.12254	.03339	.00000	.00216	.00010	.09605	.00579	.10390	.11676
4.959	12.120	.17837	.03244	-.00010	.00216	-.00010	.09095	.00559	.15531	.12637
4.959	14.160	.23949	.03206	-.00029	.00137	-.00020	.08594	.00579	.21123	.14197
4.959	16.220	.29973	.02993	.00010	.00128	.00000	.08271	.00589	.26470	.16316
4.959	18.250	.36733	.03120	.00000	.00049	.00000	.07947	.00618	.32396	.19053
4.959	20.210	.43355	.03333	.00177	.00060	.00000	.07888	.00608	.37959	.22389
GRADIENT		.02145	-.00068	-.00055	-.00010	.00015	-.00282	.00002	.01952	-.00346

(R92158) (22 MAY 74)

DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) ORB 34-0 (BCFM) (NE) (VR)

(R92159) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0250 IN.
 SCALE = .0040

BETA = .000 ELEVTR = -15.550
 AIRLON = -.400 BDFLAP = -11.700
 SPDPRK = 85.000 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 409/ 0 RV/L = 5.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.600	.49713	-.00754	-.00186	.00185	-.00049	.07221	.00589	.43905	.24410
4.959	22.750	.56993	-.02966	.00049	.00128	.00010	.07123	.00598	.49791	.28609
4.959	24.800	.64802	-.01064	-.00098	.00146	.00000	.06995	.00559	.55884	.33544
4.959	26.860	.73377	-.01295	.00010	.00147	.00010	.07015	.00589	.62261	.39475
4.959	28.920	.82168	-.01686	.00059	.00059	.00020	.07015	.00569	.68530	.45857
4.959	30.980	.91174	-.02210	.00235	.00051	.00049	.07103	.00589	.74505	.53029
4.959	33.040	1.00622	-.03036	.00088	.00030	.00010	.06966	.00598	.80549	.60711
4.959	35.100	1.10335	-.03751	.00206	-.00018	.00039	.06858	.00569	.86318	.69070
4.959	37.160	1.19666	-.04782	.00314	-.00017	.01236	.03385	.00628	.92980	.75428
4.959	39.230	1.29241	-.05074	.00432	-.00085	.00069	.06760	.00540	.95835	.86975
4.959	41.200	1.38356	-.05886	.00481	-.00153	.00059	.06613	.00579	.99720	.96119
GRADIENT		.04383	-.00264	.00029	-.00015	.00020	-.00064	-.00000	.02812	.03509

MSFC 581(0449) ORB 34-0 (BCFM) (NE) (VR)

(R92160) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = -15.550
 AIRLON = -.400 BDFLAP = -11.700
 SPDPRK = 25.000 RUDDER = .000
 CONFIG = 1.000

PARAMETRIC DATA

RUN NO. 408/ 0 RV/L = 4.78 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	20.600	.49968	-.01436	-.00304	.00302	-.00128	.06799	.00579	.44297	.24106
4.959	22.750	.57277	-.01571	.00000	.00206	-.00069	.06750	.00598	.50203	.28383
4.959	24.800	.65106	-.01707	.00039	.00138	-.00039	.06681	.00559	.56296	.33377
4.959	26.860	.73397	-.02087	.00088	.00099	-.00049	.06573	.00589	.62497	.39028
4.959	28.920	.82148	-.02519	.00069	.00089	-.00049	.06573	.00559	.68727	.45484
4.959	30.970	.91037	-.02957	.00186	.00080	-.00020	.06652	.00608	.74613	.52568
4.959	33.040	1.00632	-.03558	.00167	.00021	-.00069	.06779	.00608	.80657	.60554
4.959	35.100	1.10129	-.04151	.00343	.00003	-.00010	.06740	.00618	.86220	.68854
4.959	37.160	1.19715	-.04859	.00392	-.00065	.00000	.06681	.00549	.91361	.77645
4.959	39.220	1.28957	-.05582	.00441	-.00104	-.00010	.06603	.00598	.95727	.86661
4.959	41.180	1.38081	-.06181	.00618	-.00083	-.00010	.06613	.00520	.99553	.95903
GRADIENT		.04361	-.00241	.00036	-.00018	.00005	-.00004	-.00001	.02763	.03547

DATE 18 JUL 74

TABULATED SOURCE DATA - OA49

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MSFC 581(OA49) CFB 34-0 (BCFM) (WE) (L1=0)

(R92200) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 AILRON = -.670
 SPCBRK = 55.000
 CONFIG = 3.000

PARAMETRIC DATA

RUN NO. 367/ 0 RV/L = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.04032	-.02618	.00078	.00226	.00029	.08447	.00530	-.04032	.08447
4.959	1.940	-.00020	-.02476	.00128	.00168	.00029	.08261	.00549	-.00304	.08261
4.959	3.970	.04248	-.02244	.00049	.00216	.00029	.08114	.00569	.03689	.08388
4.959	6.000	.09075	-.02273	.00039	.00157	-.00010	.07741	.00579	.08212	.08644
4.959	8.050	.14285	-.02451	.00029	.00206	.00000	.07574	.00579	.13078	.09507
4.959	10.090	.19465	-.02687	-.00177	.00156	.00000	.07447	.00579	.17856	.10743
4.959	12.120	.25381	-.02873	-.00245	.00165	-.00039	.07378	.00579	.23282	.12548
4.959	14.160	.31533	-.03230	.00000	.00128	-.00029	.07388	.00579	.28766	.14883
4.959	16.210	.38548	-.03601	-.00010	.00147	-.00078	.07486	.00589	.34918	.17944
4.959	18.250	.45847	-.04249	.00039	.00138	-.00078	.07535	.00598	.41177	.21525
4.959	20.220	.53166	-.04751	.00029	.00108	-.00069	.07672	.00598	.47240	.25577
GRADIENT		.02102	.00295	-.00008	-.00002	.00000	-.00085	.00010	.01955	-.00014

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 AILRON = -.670
 SPCBRK = 55.000
 CONFIG = 3.000

PARAMETRIC DATA

RUN NO. 364/ 0 RV/L = 5.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.04023	-.02676	.00216	.00198	-.00029	.08506	.00520	-.04032	.08506
4.959	1.940	-.00010	-.02776	.00196	.00139	-.00010	.08271	.00549	-.00285	.08271
4.959	3.960	.04130	-.02555	.00186	.00129	-.00020	.08065	.00569	.03561	.08330
4.959	6.000	.09075	-.02582	.00177	.00109	-.00010	.07721	.00569	.08222	.08624
4.959	8.050	.13991	-.02572	.00226	.00129	-.00029	.07584	.00569	.12784	.09468
4.959	10.080	.19318	-.02883	.00147	.00060	-.00069	.07535	.00579	.17699	.10802
4.959	12.120	.25224	-.03098	.00334	-.00017	-.00078	.07427	.00589	.23105	.12568
4.959	14.160	.31405	-.03367	.00324	.00012	-.00078	.07496	.00589	.28609	.14952
4.959	16.200	.38302	-.04002	.00441	-.00094	-.00118	.07515	.00579	.34682	.17905
4.959	18.250	.45317	-.04538	.00569	-.00142	-.00147	.07613	.00589	.40647	.21427
4.959	20.210	.52627	-.05021	.00616	-.00152	-.00167	.07829	.00598	.46681	.25538
GRADIENT		.02074	.00031	-.00007	-.00017	.00002	-.00112	.00012	.01932	-.00044



DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) ORB 34-0 (BCFN) (ME) (NR) (L1=30)

(R92202) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6400 IN.
 WREF = 936.7500 IN.
 SCALE = .5040

BETA = .000 ELEVTR = 4.160
 AIRCON = -.670 BOFLAP = 16.300
 SPDPRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.300

PARAMETRIC DATA

RUN NO. 370/ 0 RV/L = 4.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
4.999	.030	-.03718	-.02506	.00275	.00169	.00039	.08326	.00530	-.03728	.08526
4.999	1.940	.00147	-.02590	.00255	.00100	.00029	.08290	.00549	-.00128	.08290
4.999	3.970	.04268	-.02417	.00245	.00130	.00039	.08192	.00559	.03689	.08467
4.999	6.000	.09379	-.02384	.00304	.00091	.00020	.07868	.00569	.08496	.08801
4.999	8.030	.14246	-.02722	.00353	-.00027	-.00039	.07741	.00579	.13019	.09664
4.999	10.090	.19603	-.02753	.00481	.00004	-.00029	.07712	.00589	.17944	.11028
4.999	12.120	.25577	-.03151	.00657	-.00161	-.00069	.07751	.00598	.23380	.12951
4.999	14.160	.31964	-.03165	.00844	-.00229	-.00108	.07839	.00598	.29070	.15423
4.999	16.230	.38832	-.04061	.00971	-.00296	-.00167	.07967	.00608	.35055	.18504
4.999	18.250	.46024	-.04633	.01089	-.00374	-.00167	.08094	.00598	.41167	.22104
4.999	20.220	.53294	-.05329	.01138	-.00520	-.00206	.08212	.00608	.47172	.26127
4.999	GRADIENT	.02027	.00023	-.00007	-.00010	.00000	-.00084	.00007	.01883	-.00014

TABULATED SOURCE DATA - 0449

DATE 18 JUL 74

(R92203) (22 MAY 74)

MSFC 581(0449) CR3 34-0 (BCFM) (MC) (VR) (L1=0)

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = .000
 SPDPRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.000

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6483 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

RUN NO. 362/ 0 RVL = 4.10 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.010	-.03826	-.01096	.00118	.00178	-.00020	.10684	.01717	-.03826	.10684
2.990	1.960	.01609	-.01067	.00098	.00197	.00000	.10537	.01766	.01246	.10586
2.990	4.020	.07182	-.01143	.00049	.00187	-.00010	.10233	.01795	.06446	.10714
2.990	6.080	.13049	-.01281	-.00078	.00186	-.00010	.09831	.01766	.11930	.11155
2.990	8.150	.19308	-.01365	.00020	.00216	-.00010	.09566	.01737	.17748	.12215
2.990	10.240	.25813	-.01667	.00000	.00176	-.00010	.09271	.01756	.23753	.13726
2.990	12.320	.32641	-.01926	-.00128	.00156	-.00020	.09154	.01805	.29934	.15904
2.990	14.390	.39529	-.02253	-.00137	.00137	-.00020	.08977	.01835	.36056	.18533
2.990	16.470	.46995	-.02528	-.00039	.00137	-.00020	.08820	.01835	.42560	.21781
2.990	18.570	.54226	-.02945	.00049	.00069	-.00020	.08555	.01835	.48683	.25381
2.990	20.590	.61804	-.03378	.00029	.00030	-.00020	.08300	.01835	.54765	.29404
GRADIENT		.02745	-.00012	-.00017	.00002	-.00002	-.00113	.00020	.02561	.00008

RUN NO. 363/ 0 RVL = 20.00 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.010	-.04503	-.02190	.00078	.00226	.00010	.08339	.00530	-.04503	.08339
4.999	1.930	-.00961	-.02143	.00128	.00148	.00020	.08163	.00540	-.01236	.08124
4.999	3.960	.03483	-.01850	.00049	.00197	-.00010	.07908	.00559	.02924	.08133
4.999	6.000	.08231	-.01774	.00108	.00197	.00000	.07594	.00559	.07388	.08408
4.999	8.050	.13186	-.01637	.00088	.00187	-.00010	.07329	.00549	.12028	.09105
4.999	10.090	.18307	-.01603	.00010	.00177	-.00039	.07192	.00579	.16767	.10292
4.999	12.120	.23900	-.01611	.00069	.00128	-.00049	.07074	.00569	.21879	.11940
4.999	14.160	.29875	-.01709	.00118	.00187	-.00029	.07025	.00589	.27245	.14128
4.999	16.210	.36654	-.01949	.00039	.00108	-.00088	.06897	.00589	.33269	.16855
4.999	18.250	.43483	-.02159	.00088	.00099	-.00088	.06907	.00589	.39127	.20181
4.999	20.220	.50468	-.02308	.00137	.00099	-.00088	.06917	.00608	.44964	.23939
GRADIENT		.02123	.00087	-.00008	-.00007	-.00005	-.00109	.00007	.01882	-.00032

DATE 16 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581 (0A49) ORB 34-0 (BCFM) (NE) (NR) (LI=15)

(R92204) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 PREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = .000
 SPDRK = 55.000 RUDDER = .000
 CONF16 = 3.000 VENTRL = 1.150

RUN NO. 369/ 0 RN/L = 4.14 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.020	-.03414	-.01157	.00226	.00100	-.00029	.10684	.01529	-.03424	.10674
2.990	1.960	.01854	-.01160	.00216	.00090	-.00020	.10547	.01668	.01491	.10606
2.990	4.020	.07299	-.01131	.00196	.00110	-.00020	.10223	.01717	.06564	.10714
2.990	6.080	.13176	-.01356	.00147	.00070	-.00039	.09850	.01688	.12058	.11194
2.990	8.180	.19573	-.01486	.00128	.00070	-.00039	.09527	.01638	.18013	.12215
2.990	10.250	.26097	-.01817	.00196	.00031	-.00049	.09340	.01688	.24018	.13834
2.990	12.340	.32867	-.02067	.00216	.00002	-.00069	.09173	.01717	.30140	.15992
2.990	14.390	.39725	-.02335	.00233	.00002	-.00069	.09036	.01746	.36232	.18631
2.990	16.490	.47044	-.02779	.00294	-.00106	-.00069	.08890	.01756	.42600	.21830
2.990	18.570	.54589	-.03171	.00324	-.00135	-.00069	.08634	.01786	.48987	.25577
2.990	20.550	.61829	-.03404	.00461	-.00192	-.00059	.08438	.01776	.54932	.29610
GRADIENT		.02678	.00007	-.00007	.00002	.00002	-.00116	.00022	.02497	.00010

RUN NO. 368/ 0 RN/L = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.04327	-.02303	.00206	.00159	.00020	.08359	.00520	-.04327	.08359
4.959	1.940	-.00137	-.02169	.00196	.00110	.00000	.08143	.00540	-.00412	.08133
4.959	3.970	.03826	-.01922	.00118	.00138	.00000	.07908	.00549	.03267	.08163
4.959	6.000	.08438	-.01906	.00098	.00138	.00000	.07555	.00549	.07604	.08398
4.959	8.030	.13323	-.01876	.00226	.00178	-.00020	.07358	.00549	.12156	.09144
4.959	10.090	.18533	-.01667	.00137	.00050	-.00049	.07241	.00549	.16983	.10380
4.959	12.120	.24273	-.01769	.00196	.00021	-.00049	.07113	.00569	.22242	.12058
4.959	14.160	.30316	-.01818	.00314	-.00003	-.00059	.07054	.00569	.27657	.14265
4.959	16.210	.37037	-.02030	.00363	-.00056	-.00089	.06985	.00589	.33613	.17052
4.959	18.270	.43905	-.02336	.00412	-.00105	-.00098	.06995	.00589	.39499	.20407
4.959	20.280	.50777	-.02637	.00435	-.00189	-.00206	.06889	.00579	.46368	.24073
GRADIENT		.02068	.00097	-.00023	-.00005	-.00005	-.00115	.00007	.01926	-.00049

MSFC 561 (0449) CRB 34-0 (0CFM) (WE) (V1=30)

(R92205) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6481 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .5-40

PARAMETRIC DATA

BE'A = .000 ELEVTR = 4.160
 ALLRON = -.670 BDFLAP = .000
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.300

RUN NO. 366/ 0 RVL = 4.14 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.020	-.03100	-.01307	.00304	.00032	-.00029	.10753	.01629	-.03110	.10753
2.990	1.960	.02080	-.01340	.00294	.00032	-.00029	.10557	.01658	.01707	.10635
2.990	4.020	.07721	-.01327	.00275	.00032	-.00049	.10321	.01688	.06976	.10841
2.990	6.090	.13579	-.01305	.00304	.00002	-.00048	.09919	.01648	.12450	.11302
2.990	8.180	.20015	-.01692	.00285	-.00027	-.00069	.09605	.01609	.18445	.12362
2.990	10.250	.26313	-.01978	.00343	-.00036	-.00069	.09428	.01629	.24214	.13961
2.990	12.320	.33309	-.02360	.00412	-.00095	-.00078	.09340	.01688	.30542	.18228
2.990	14.400	.40298	-.02580	.00432	-.00114	-.00078	.09213	.01717	.36546	.18896
2.990	16.470	.47417	-.03063	.00569	-.00241	-.00106	.09026	.01737	.42904	.22114
2.990	18.560	.54952	-.03338	.00628	-.00289	-.00088	.08908	.01776	.49261	.25940
2.990	20.550	.62349	-.03889	.00687	-.00357	-.00098	.08702	.01766	.55315	.30042
2.990	GRADIENT	.02756	-.00005	-.00007	-.00000	-.00005	-.00108	.00015	.02522	.00023

RUN NO. 365/ 0 RVL = 5.04 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.030	-.04513	-.02490	.00206	.00198	.00010	.08388	.00510	-.04523	.08388
4.999	1.930	-.00775	-.02247	.00196	.00110	-.00010	.08163	.00540	-.01050	.08133
4.999	3.970	.03640	-.01954	.00119	.00178	-.00010	.07898	.00530	.03081	.08133
4.999	6.020	.08350	-.01966	.00098	.00119	-.00010	.07525	.00530	.07466	.08349
4.999	8.050	.13382	-.01837	.00226	.00100	-.00029	.07437	.00530	.12205	.09232
4.999	10.090	.18513	-.01639	.00275	.00041	-.00059	.07319	.00549	.16944	.10449
4.999	12.120	.24263	-.01750	.00392	-.00016	-.00078	.07211	.00549	.22212	.12156
4.999	14.160	.30042	-.02035	.00441	-.00104	-.00088	.07192	.00540	.27373	.14324
4.999	16.200	.36713	-.02236	.00628	-.00132	-.00118	.07231	.00549	.33230	.17189
4.999	18.250	.43826	-.02502	.00677	-.00279	-.00167	.07211	.00579	.39362	.20574
4.999	20.210	.50537	-.02791	.00795	-.00347	-.00186	.07250	.00589	.44915	.24273
4.999	GRADIENT	.02070	.00136	-.00023	-.00005	-.00005	-.00125	.00005	.01931	-.00064



DATE 16 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) CRB 34-0 (BCFM) (NE) (L1=0)

(R92207) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONF16 = 3.000 VENTRL = 1.000

PARAMETRIC DATA

RUN NO. 346/ 0 RWL = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	.030	-.04533	-.02161	.00137	.00246	.00020	.06379	.00648	-.04533	.08379
4.99	1.930	-.00854	-.01987	.00128	.00207	.00039	.08133	.00667	-.01128	.08094
4.99	3.960	.03277	-.01679	.00116	.00217	.00039	.07878	.00657	.02718	.08084
4.99	6.000	.07908	-.01328	.00029	.00206	.00039	.07466	.00648	.07084	.08251
4.99	8.030	.13019	-.01494	.00020	.00187	.00039	.07270	.00648	.11871	.09016
4.99	10.080	.17846	-.01195	.00010	.00137	-.00010	.07093	.00657	.16335	.10105
4.99	12.120	.23223	-.01167	.00000	.00177	.00000	.06946	.00657	.21241	.11675
4.99	14.160	.29129	-.01295	-.00010	.00137	-.00010	.06927	.00677	.26549	.13843
4.99	16.200	.35722	-.01345	-.00029	.00078	-.00049	.06730	.00677	.32426	.16443
4.99	18.250	.42374	-.01374	.00020	.00088	-.00059	.06711	.00697	.38145	.19652
4.99	20.270	.49193	-.01352	.00069	.00089	-.00049	.06711	.00706	.43836	.23301
4.99	GRADIENT	.01988	.00123	-.00003	-.00007	.00005	-.00127	.00002	.01845	-.00074

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONF16 = 3.000 VENTRL = 1.190

PARAMETRIC DATA

RUN NO. 357/ 0 RWL = 4.99 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	.030	-.04435	-.02228	.00275	.00277	.00029	.08418	.00628	-.04444	.08418
4.99	1.930	-.00854	-.01977	.00255	.00179	.00029	.08163	.00667	-.01138	.08133
4.99	3.970	.03395	-.01667	.00186	.00257	.00029	.07927	.00667	.02835	.08143
4.99	6.000	.08055	-.01448	.00167	.00198	.00029	.07545	.00657	.07221	.08339
4.99	8.030	.12686	-.01432	.00088	.00207	.00000	.07359	.00648	.11528	.09046
4.99	10.080	.17994	-.01347	.00137	.00129	-.00020	.07142	.00657	.16463	.10184
4.99	12.140	.23713	-.01285	.00255	.00100	-.00039	.07064	.00667	.21692	.11891
4.99	14.160	.29453	-.01300	.00177	.00109	-.00049	.06949	.00667	.26843	.14000
4.99	16.200	.35879	-.01332	.00294	.00022	-.00088	.06897	.00657	.32524	.16640
4.99	18.270	.42708	-.01352	.00353	.00013	-.00088	.06829	.00706	.38410	.19877
4.99	20.210	.49693	-.01337	.00402	.00003	-.00098	.06887	.00716	.44248	.23635
4.99	GRADIENT	.01988	.00142	-.00023	-.00005	.00000	-.00124	.00010	.01849	-.00069

NSFC 581(0449) ORB 34-0 (BCFM) (NE) (L1=30)

(R92208) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

XMRP = 1081.3900 IN.
 YMRP = .0000 IN.
 ZMRP = .0000 IN.

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.000

RUN NO. 359/ 0 RV/L = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.04709	-.02230	.00343	.00209	-.00010	.08388	.00638	-.04709	.08388
4.959	1.930	-.00697	-.02158	.00324	.00160	.00029	.08163	.00657	-.00971	.08133
4.959	3.990	.03571	-.01826	.00245	.00208	.00029	.07868	.00657	.03012	.08104
4.959	6.020	.08182	-.01680	.00304	.00189	.00038	.07545	.00638	.07348	.08359
4.959	8.050	.13000	-.01611	.00285	.00159	-.00020	.07378	.00648	.11842	.09124
4.959	10.080	.18150	-.01432	.00343	.00071	-.00039	.07201	.00667	.16600	.10272
4.959	12.140	.23500	-.01466	.00392	.00033	-.00059	.07123	.00677	.21859	.11989
4.959	14.160	.29649	-.01490	.00441	.00004	-.00078	.07035	.00677	.27020	.14079
4.959	16.220	.36222	-.01617	.00491	-.00065	-.00088	.06985	.00667	.32818	.16836
4.959	18.270	.43080	-.01836	.00549	-.00094	-.00128	.06946	.00687	.38724	.20103
4.959	20.220	.50056	-.01822	.00657	-.00122	-.00128	.07084	.00697	.44523	.23949
GRADIENT		.02091	.00167	-.00025	.00000	.00010	-.00131	.00005	.01950	-.00071

NSFC 581(0449) ORB 34-0 (BCFM) (NE) (L1=0)

(R92209) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

XMRP = 1081.3900 IN.
 YMRP = .0000 IN.
 ZMRP = .0000 IN.

PARAMETRIC DATA

ALPHA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.000

RUN NO. 329/ 0 RV/L = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.020	-.05867	-.02038	.15757	-.00332	.00863	.09105	.00559	-.05838	.09124
4.959	-8.120	-.05965	-.01962	.12715	-.00210	.00667	.08918	.00559	-.05936	.08938
4.959	-6.070	-.05887	-.02077	.09664	-.00117	.00491	.08722	.00569	-.05857	.08742
4.959	-4.070	-.05681	-.02054	.06760	-.00043	.00363	.08634	.00569	-.05651	.08653
4.959	-2.030	-.05690	-.02248	.03718	.00158	.00167	.08477	.00559	-.05661	.08496
4.959	-.010	-.05641	-.02218	.00805	.00222	.00039	.08388	.00569	-.05612	.08408
4.959	2.030	-.05808	-.02366	-.02168	.00178	-.00049	.08467	.00579	-.05779	.08487
4.959	4.030	-.06142	-.02226	-.05141	.00360	-.00177	.08712	.00579	-.06112	.08732
4.959	6.050	-.06171	-.02023	-.08182	.00394	-.00392	.08840	.00608	-.06142	.08859
4.959	8.100	-.06642	-.01973	-.11165	.00526	-.00500	.09016	.00608	-.06613	.09036
4.959	10.020	-.06936	-.01929	-.14138	.00669	-.00657	.09252	.00598	-.06957	.09271
GRADIENT		-.00051	-.00023	-.01465	.00041	-.00064	.00007	.00002	-.00051	.00007

DATE 18 JUL 74

TABULATED SOURCE DATA - OM49

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MSFC 581(OM49) ORB 34-0 (BCFN) (ME) (VR) (L1=0)

(R92210) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8500 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7500 IN.
 SCALE = .0040

ALPHA = 10.000
 AILRON = -.670
 SPDRK = 53.000
 CONFIG = 3.000

ELEVTR = 4.160
 BDFLAP = -11.700
 RUDDER = .000
 VENTRL = 1.000

RUN NO. 330/ 0 RVL = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

W-CH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.956	-10.010	.17297	-.01745	.13490	.00219	.01442	.07604	.00589	.15698	.10508
4.959	-8.110	.17052	-.01652	.10782	.00245	.01207	.07456	.00598	.15482	.10321
4.959	-6.090	.17140	-.01612	.08330	.00147	.00991	.07329	.00608	.15590	.10223
4.959	-4.040	.17111	-.01622	.05818	.00058	.00706	.07241	.00589	.15570	.10125
4.959	-2.020	.16826	-.01540	.03305	.00086	.00392	.07172	.00569	.15305	.10007
4.959	.000	.16875	-.01442	.00667	.00123	.00128	.07182	.00589	.15354	.10027
4.959	2.030	.16787	-.01405	-.01835	.00103	-.00167	.07172	.00579	.15266	.09997
4.959	4.030	.16679	-.01291	-.04346	.00092	-.00432	.07231	.00579	.15148	.10037
4.959	6.070	.16688	-.01320	-.06976	.00168	-.00716	.07388	.00618	.15148	.10204
4.959	8.090	.16384	-.01479	-.09566	.00049	-.00961	.07466	.00608	.14825	.10213
4.959	10.010	.15963	-.01273	-.12146	.00038	-.01177	.07584	.00618	.14383	.10262
GRADIENT		-.00045	.00040	-.01261	.00004	-.00140	-.00001	-.00000	-.00044	-.00009

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7500 IN.
 SCALE = .0040

ALPHA = 20.000
 AILRON = -.670
 SPDRK = 55.000
 CONFIG = 3.000

ELEVTR = 4.160
 BDFLAP = -11.700
 RUDDER = .000
 VENTRL = 1.000

RUN NO. 332/ 0 RVL = 5.06 GRADIENT INTERVAL = -5.00/ 5.00

W-CH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.010	.49497	-.01773	.11577	.01037	.01707	.07103	.00677	.43846	.24037
4.959	-8.110	.49624	-.01887	.09458	.00823	.01413	.06986	.00697	.44012	.23959
4.959	-6.090	.49732	-.01753	.07142	.00696	.01089	.06868	.00687	.44150	.23910
4.959	-4.070	.49546	-.01743	.04955	.00512	.00785	.06790	.00687	.44012	.23723
4.959	-2.040	.49516	-.01502	.02845	.00318	.00432	.06672	.00677	.44012	.23645
4.959	.000	.49369	-.01649	.00726	.00065	.00069	.06691	.00677	.43875	.23605
4.959	2.010	.49340	-.01669	-.01118	-.00215	-.00235	.06701	.00657	.43836	.23605
4.959	4.030	.48977	-.01675	-.03365	-.00332	-.00618	.06682	.00677	.43512	.23439
4.959	6.070	.48898	-.01628	-.05543	-.00467	-.00932	.06829	.00687	.43385	.23576
4.959	8.070	.48437	-.01587	-.07986	-.00615	-.01305	.06897	.00697	.42923	.23468
4.959	10.020	.47937	-.01556	-.10105	-.00848	-.01580	.07103	.00697	.42394	.23478
GRADIENT		-.00065	-.00001	-.01017	-.00110	-.00172	-.00007	-.00002	-.00058	-.00030

MSFC 581(OM49) ORB 34-0 (BCFN) (ME) (VR) (L1=0)

(R92211) (22 MAY 74)

MSFC 581(0A49) OFB 34-0 (BCFM) (NE) (L1=15)

(R92212) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 461.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

XMRP = 1081.3900 IN.
 YMRP = .0000 IN.
 ZMRP = .0000 IN.

PARAMETRIC DATA

ALPHA = .000 ELEVTR = 4.160
 AILRON = -.670 BCFAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.150

RUN NO. 328/ 0 RIVL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	COB	CAP	CAB	CL	CO
4.99	-10.020	-.05700	-.02122	.15757	-.00332	.00844	.09164	.00579	-.05671	.09183
4.99	-8.120	-.05337	-.02174	.12715	-.00190	.00657	.09016	.00379	-.05308	.09026
4.99	-6.090	-.05278	-.02202	.09674	-.00078	.00491	.08781	.00569	-.05249	.08801
4.99	-4.090	-.05170	-.02181	.06760	-.00072	.00314	.08634	.00579	-.05141	.08553
4.99	-2.030	-.05161	-.02394	.03660	-.00118	.00118	.08536	.00589	-.05131	.08555
4.99	-.010	-.05121	-.02335	.00677	-.00231	-.00029	.08408	.00598	-.05092	.08408
4.99	2.030	-.05386	-.02378	-.02131	.00209	-.00059	.08712	.00589	-.05061	.08732
4.99	4.030	-.05671	-.02247	-.05072	.00370	-.00245	.08669	.00598	-.05016	.08889
4.99	6.030	-.05946	-.02203	-.06124	.00453	-.00265	.08997	.00608	-.05040	.09016
4.99	8.080	-.06269	-.02237	-.11087	.00468	-.00559	.09222	.00618	-.05328	.09242
4.99	10.020	-.06558	-.02016	-.14197	.00590	-.00716	.09222	.00601	-.05061	.09001
4.99	GRADIENT	-.05061	-.05006	-.01492	.00048	-.00064	.09001			

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 461.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

XMRP = 1081.3900 IN.
 YMRP = .0000 IN.
 ZMRP = .0000 IN.

PARAMETRIC DATA

ALPHA = 10.000 ELEVTR = 4.160
 AILRON = -.670 BCFAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.150

RUN NO. 327/ 0 RIVL = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	COB	CAP	CAB	CL	CO
4.99	-10.010	.17503	-.01771	.13559	.00160	.01374	.07653	.00598	.15894	.10596
4.99	-8.110	.17444	-.01646	.10910	.00119	.01168	.07476	.00579	.15865	.10410
4.99	-6.080	.17552	-.01780	.08350	.00059	.00942	.07417	.00598	.15982	.10380
4.99	-4.040	.17507	-.01581	.05877	-.00001	.00677	.07319	.00579	.15757	.10233
4.99	-2.020	.17209	-.01689	.03306	.00017	.00383	.07201	.00579	.15678	.10105
4.99	.000	.16934	-.01461	.00667	.00064	.00088	.07211	.00579	.15413	.10066
4.99	2.030	.17022	-.01459	-.01835	.00005	-.00196	.07290	.00589	.15492	.10125
4.99	4.030	.16178	-.01357	-.04807	.00008	-.00491	.07192	.00589	.14668	.09959
4.99	6.070	.16581	-.01389	-.06917	.00110	-.00765	.07339	.00598	.15040	.10125
4.99	8.070	.16708	-.01358	-.09497	.00020	-.00991	.07437	.00608	.15148	.10253
4.99	10.020	.16178	-.01328	-.12077	-.00040	-.01197	.07535	.00608	.14609	.10253
4.99	GRADIENT	-.00121	.00034	-.01313	.00008	-.00144	-.00810	.00061	-.00117	-.00031



DATE 18 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) CEB 34-0 (BCFM) (NE) (IL1=15)

(092214) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SA. FT
 LREF = 481.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 21.000
 AILRON = -0.670
 SPDRK = 55.000
 CONF16 = 3.000
 ELEVTR = 4.160
 BDRAP = -11.700
 RUDDER = .000
 VENTRL = 1.150

PARAMETRIC DATA

RUN NO. 303/ 0 RW/L = 5.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CEL	CAP	CAB	CL	CD
4.99	-10.010	.49497	-.02005	.11636	.00812	.01688	.07221	.00648	.43797	.24145
4.99	-8.090	.49752	-.02099	.09448	.00647	.01593	.07103	.00648	.44091	.24135
4.99	-6.060	.49762	-.02155	.07133	.00461	.01090	.06936	.00667	.44150	.23978
4.99	-4.060	.49723	-.01924	.05513	.00267	.00716	.06779	.00657	.44169	.23821
4.99	-2.020	.49673	-.01896	.02904	.00093	.00373	.06789	.00657	.44120	.23811
4.99	.000	.49664	-.01809	.00785	-.00111	.00000	.06829	.00648	.44101	.23841
4.99	2.030	.49634	-.01664	-.01128	-.00372	-.00324	.06770	.00638	.44031	.23782
4.99	4.030	.49281	-.01921	-.03238	-.00566	-.00697	.06740	.00628	.43777	.23625
4.99	6.070	.49389	-.01765	-.05416	-.00712	-.01020	.06829	.00657	.43836	.23743
4.99	8.100	.49226	-.01703	-.07751	-.00829	-.01364	.06976	.00677	.43443	.23753
4.99	10.020	.48594	-.01700	-.09978	-.01092	-.01668	.07074	.00667	.43012	.23694
4.99	GRADIENT	-.00145	.00012	-.01015	-.00105	-.00174	-.00005	-.00004	-.00040	-.00021

PARAMETRIC DATA

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 431.6400 IN.
 BREF = 955.7500 IN.
 SCALE = .0040
 XMRP = 1081.3900 IN.
 YMRP = .0000 IN.
 ZMRP = .0000 IN.
 ALPHA = .000
 ELEVTR = 4.180
 AILRON = -.670
 BDFLAP = .000
 SPDRK = 95.000
 RUDDER = .000
 CONFIG = 1.000

RUN NO. 50/ 0 RWL = 4.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.140	-.05259	-.01554	.18821	-.00344	.00844	.10930	.01688	-.05219	.10949
2.990	-8.190	-.05347	-.01565	.19299	-.00494	.00716	.10841	.01658	-.05308	.10861
2.990	-6.140	-.05131	-.01359	.11616	-.00376	.00598	.10792	.01648	-.05092	.10812
2.990	-4.120	-.05278	-.01129	.08094	-.00238	.00432	.10714	.01648	-.05239	.10733
2.990	-2.090	-.05376	-.01150	.04376	-.00101	.00255	.10743	.01648	-.05327	.10773
2.990	-.010	-.05455	-.01025	.00706	-.00024	.00039	.10773	.01668	-.05416	.10792
2.990	2.020	-.05455	-.01025	-.02992	.00397	-.00167	.10822	.01697	-.05416	.10841
2.990	4.070	-.05671	-.01145	-.06779	.00292	-.00373	.10871	.01717	-.05632	.10900
2.990	6.110	-.05828	-.01360	-.10341	.00749	-.00549	.10920	.01737	-.05789	.10949
2.990	8.180	-.05955	-.01333	-.14059	.00915	-.00687	.11047	.01717	-.05916	.11067
2.990	10.110	-.06407	-.01466	-.17657	.00983	-.00844	.11126	.01697	-.06367	.11155
GRADIENT		-.00342	.00005	-.01815	.00105	-.00099	.00019	.00009	-.00043	.00020

RUN NO. 49/ 0 RWL = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	-10.020	-.06093	-.02128	.15894	-.00291	.00883	.09399	.00451	-.06063	.09428
4.999	-8.100	-.06142	-.02468	.12784	-.00219	.00667	.09124	.00451	-.06102	.09144
4.999	-6.070	-.05710	-.02393	.09674	-.00136	.00471	.08377	.00451	-.05681	.08997
4.999	-4.070	-.05818	-.02424	.06780	-.00062	.00343	.08781	.00441	-.05789	.08801
4.999	-2.030	-.05851	-.02585	.03660	-.00118	.00177	.08673	.00432	-.05822	.08693
4.999	.000	-.05583	-.02720	.00805	.00144	.00039	.08457	.00432	-.05553	.08477
4.999	2.010	-.05802	-.02739	-.02109	.00081	-.00020	.08555	.00451	-.05573	.08575
4.999	4.030	-.06004	-.02620	-.03278	.00222	-.00186	.08781	.00471	-.05975	.08801
4.999	6.030	-.06181	-.02362	-.08192	.00374	-.00304	.09007	.00471	-.06152	.09026
4.999	8.060	-.06524	-.02541	-.11234	.00379	-.00441	.09193	.00471	-.06485	.09213
4.999	10.000	-.07192	-.02494	-.14275	.00413	-.00557	.09350	.00481	-.07152	.09370
GRADIENT		-.00016	-.00027	-.01475	.00026	-.00062	-.00006	.00004	-.00016	-.00006

DATE 10 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) ORB 34-0 (BCFM) (WE) (VR)

(R92219) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0043

ALPHA = 10.000
 AILRON = -.670
 SPDRK = 55.000
 CONFIG = 1.000

PARAMETRIC DATA

ELEVTR = 4.160
 BDPLAP = .000
 RUDDER = .000

RUN NO. 51/ 0 RN/L = 4.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.120	.24802	-.02573	.16149	.00025	.01550	.09340	.01815	.22742	.13598
2.990	-8.180	.24802	-.02244	.13088	-.00030	.01315	.09311	.01795	.22752	.13569
2.990	-6.130	.24596	-.02054	.09850	.00032	.01011	.09350	.01825	.22546	.13569
2.990	-4.110	.24263	-.01856	.06456	.00190	.00648	.09370	.01786	.22212	.13529
2.990	-2.050	.24018	-.01570	.03483	.00205	.00353	.09370	.01746	.21967	.13490
2.990	-.010	.23900	-.01630	.00549	.00171	.00039	.09330	.01727	.21859	.13431
2.990	2.020	.23743	-.01536	-.02414	.00196	-.00245	.09389	.01766	.21702	.13461
2.990	4.060	.23684	-.01605	-.05376	.00182	-.00510	.09448	.01786	.21624	.13510
2.990	6.090	.23645	-.01953	-.08653	.00282	-.00873	.09419	.01795	.21594	.13461
2.990	8.170	.23605	-.02138	-.12048	.00431	-.01177	.09458	.01766	.21555	.13490
2.990	10.090	.23605	-.02283	-.15138	.00406	-.01432	.09487	.01756	.21545	.13520
GRADIENT		-.00070	.00026	-.01448	-.00001	-.00143	.00009	.00001	-.00071	-.00003

RUN NO. 52/ 0 RN/L = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	-10.010	.17581	-.01866	.13353	.00267	.01501	.07702	.00471	.15963	.10665
4.999	-8.090	.17277	-.01794	.10645	.00186	.01207	.07427	.00491	.15708	.10341
4.999	-6.070	.17326	-.01667	.08251	.00107	.01060	.07437	.00491	.15747	.10360
4.999	-4.060	.17267	-.01649	.05749	.00057	.00746	.07348	.00500	.15708	.10253
4.999	-2.020	.17297	-.01610	.03169	.00114	.00451	.07250	.00481	.15757	.10164
4.999	.000	.17258	-.01688	.00608	.00103	-.00023	.07221	.00491	.15727	.10125
4.999	2.010	.17003	-.01547	-.02031	.00081	-.00147	.07201	.00510	.15482	.10076
4.999	4.030	.17012	-.01411	-.04405	.00101	-.00441	.07290	.00481	.15472	.10164
4.999	6.050	.16954	-.01712	-.06917	.00032	-.00716	.07348	.00461	.15403	.10204
4.999	8.070	.16581	-.01621	-.09497	-.00039	-.00922	.07388	.00461	.15031	.10184
4.999	10.000	.16218	-.01530	-.12077	-.00119	-.01148	.07555	.00481	.14648	.10262
GRADIENT		-.00040	.00027	-.01262	.00003	-.00147	-.00008	-.00000	-.00037	-.00013

DATE 10 JUL 74

TABULATED SOURCE DATA - 0449

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MSFC 581(0449) ORB 34-0 (BCFM) (WE) (VR)

(R92220) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 20.000
 AILRON = -.670
 SPDPRK = 55.000
 CONFIG = 1.000

ELEVTR = 4.160

BDCLAP = .000

RUDDER = .000

PARAMETRIC DATA

RUN NO. 56/ 0 RW/L = 4.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.130	.61192	-.04033	.14167	.01097	.02119	.08251	.01874	.54226	.29531
2.990	-8.170	.61113	-.03908	.11253	.01015	.01707	.08241	.01884	.54157	.29492
2.990	-6.140	.60937	-.03669	.08467	.00805	.01305	.08222	.01854	.54000	.29414
2.990	-4.110	.60917	-.03525	.05445	.00673	.00824	.08163	.01805	.53990	.29345
2.990	-2.050	.60799	-.03227	.02718	.00572	.00373	.08339	.01805	.53833	.29472
2.990	-.010	.60691	-.03219	.00589	.00172	.00020	.08261	.01776	.53755	.29365
2.990	2.030	.60387	-.03233	-.01648	-.00298	-.00285	.08290	.01766	.53461	.29286
2.990	4.070	.60171	-.03275	-.04229	-.00466	-.00716	.08202	.01795	.53294	.29159
2.990	6.110	.60191	-.03517	-.07162	-.00569	-.01158	.08251	.01835	.53294	.29168
2.990	8.180	.60005	-.03501	-.10096	-.00711	-.01570	.08339	.01874	.53088	.29188
2.990	10.110	.59485	-.03596	-.12951	-.00891	-.01982	.08320	.01874	.52617	.28972
GRADIENT		-.00093	.00024	-.01160	-.00154	-.00183	.00201	-.00003	-.00086	-.00031

RUN NO. 55/ 0 RW/L = 4.86 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.010	.51302	-.02692	.11528	.01164	.01707	.07339	.00481	.45455	.24901
4.959	-8.090	.51567	-.02658	.09340	.00999	.01452	.07192	.00510	.45749	.24861
4.959	-6.070	.51282	-.02682	.07084	.00735	.01118	.06966	.00510	.45563	.24547
4.959	-4.070	.51096	-.02434	.04896	.00550	.00795	.06966	.00500	.45396	.24479
4.959	-2.020	.51086	-.02357	.02718	.00356	.00432	.06897	.00500	.45396	.24410
4.959	.000	.50753	-.02236	.00795	.00095	.00078	.06956	.00491	.45072	.24351
4.959	2.010	.50939	-.02311	-.01256	-.00207	-.00245	.06887	.00491	.45268	.24351
4.959	4.030	.50615	-.02163	-.03434	-.00401	-.00638	.06760	.00481	.45013	.24116
4.959	6.050	.50596	-.02335	-.05612	-.00586	-.00981	.06936	.00481	.44925	.24273
4.959	8.100	.50154	-.02372	-.07986	-.00782	-.01344	.07084	.00510	.44464	.24253
4.959	10.000	.49516	-.02266	-.10184	-.01006	-.01609	.07162	.00520	.43846	.24196
GRADIENT		-.00055	.00026	-.01020	-.00122	-.00175	-.00021	-.00002	-.00044	-.00039

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) OFB 34-0 (BCFM) (WE) (VR) (L1=0)

(R92221) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = .000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = .000
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.000

RUN NO. 316/ 0 RW/L = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.020	-.05573	-.02120	.15825	-.00312	.00834	.09164	.00579	-.05543	.09183
4.959	-8.120	-.05641	-.02150	.12784	-.00238	.00648	.08948	.00579	-.05612	.08967
4.959	-6.070	-.05357	-.02300	.09674	-.00176	.00461	.08791	.00589	-.05327	.08810
4.959	-4.050	-.05308	-.02174	.06760	-.00092	.00304	.08614	.00579	-.05288	.08634
4.959	-2.030	-.05121	-.02422	.03718	.00060	.00108	.08516	.00579	-.05092	.08526
4.959	-.010	-.05475	-.02293	.00746	.00251	.00000	.08369	.00589	-.05445	.08388
4.959	2.030	-.05229	-.02395	-.02031	.00209	-.00059	.08438	.00579	-.05200	.08457
4.959	4.030	-.05612	-.02285	-.03210	.00340	-.00265	.08644	.00589	-.05583	.08663
4.959	6.080	-.05681	-.02305	-.08320	.00422	-.00402	.08840	.00589	-.05651	.08859
4.959	8.100	-.05975	-.02126	-.11165	.00507	-.00540	.09075	.00618	-.05946	.09095
4.959	10.020	-.06573	-.02049	-.14197	.00649	-.00706	.09311	.00628	-.06544	.09340
GRADIENT		-.00035	-.00010	-.01468	.00050	-.00065	-.00001	.00001	-.00034	-.00001

MSFC 581(0A49) OFB 34-0 (BCFM) (WE) (VR) (L1=0)

(R92222) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 10.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = .000
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.000

RUN NO. 315/ 0 RW/L = 4.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.010	.17542	-.02099	.13294	.00197	.01374	.07584	.00608	.15943	.10537
4.959	-8.110	.17729	-.01893	.10841	.00177	.01168	.07388	.00598	.16159	.10370
4.959	-6.080	.17562	-.01992	.08192	.00077	.00932	.07398	.00598	.15992	.10360
4.959	-4.040	.17581	-.01818	.05749	.00077	.00687	.07329	.00589	.16021	.10292
4.959	-2.020	.17336	-.01928	.03179	.00065	.00392	.07182	.00559	.15815	.10105
4.959	.000	.17199	-.01708	.00608	.00142	.00108	.07172	.00589	.15678	.10066
4.959	2.030	.17297	-.01687	-.01962	.00111	-.00216	.07211	.00579	.15766	.10125
4.959	4.030	.17012	-.01547	-.04533	.00149	-.00461	.07280	.00598	.15472	.10145
4.959	6.090	.16914	-.01664	-.07044	.00129	-.00755	.07329	.00618	.15364	.10174
4.959	8.090	.16649	-.01630	-.09625	.00127	-.00981	.07447	.00598	.15089	.10243
4.959	10.010	.16424	-.01624	-.12264	.00086	-.01177	.07574	.00608	.14844	.10331
GRADIENT		-.00058	.00039	-.01273	.00009	-.00144	-.00003	.00002	-.00057	-.00014

MSFC 581(0449) ORB 34-0 (BCFM) (NE) (VR) (L1=0)

(R92223) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AIRON = -.670 BDCLAP = .000
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.000

RUN NO. 304/ 0 RWL = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.130	.61172	-.04294	.14520	.00914	.02109	.08310	.01923	.54187	.29580
2.990	-8.210	.61280	-.04128	.11665	.00851	.01707	.08290	.01923	.54294	.29600
2.990	-6.140	.61143	-.03956	.08683	.00699	.01334	.08241	.01894	.54177	.29512
2.990	-4.100	.61015	-.03668	.05681	.00635	.00834	.08192	.01864	.54079	.29423
2.990	-2.050	.60946	-.03582	.02865	.00504	.00373	.08290	.01844	.53981	.29482
2.990	-.010	.60770	-.03508	.00828	.00162	.00039	.08261	.01815	.53824	.29394
2.990	2.050	.60701	-.03489	-.01648	-.00239	-.00245	.08339	.01825	.53735	.29433
2.990	4.070	.60623	-.03491	-.04297	-.00379	-.00667	.08300	.01864	.53676	.29374
2.990	6.130	.60505	-.03667	-.07299	-.00452	-.01128	.08310	.01894	.53559	.29335
2.990	8.180	.60505	-.03733	-.10154	-.00584	-.01550	.08349	.01894	.53088	.29198
2.990	10.120	.59818	-.03919	-.13166	-.00726	-.01943	.08359	.01894	.52911	.29129
GRADIENT		-.02050	.00022	-.01197	-.00136	-.00177	.00013	-.00001	-.00051	-.00007

RUN NO. 304/ 0 RWL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	-10.010	.50419	-.02715	.11646	.01028	.01707	.07388	.00657	.44611	.24626
4.999	-8.090	.50409	-.02832	.09330	.00842	.01432	.07192	.00667	.44670	.24439
4.999	-6.070	.50409	-.02686	.07015	.00666	.01089	.07015	.00667	.44738	.24273
4.999	-4.040	.50370	-.02532	.04827	.00491	.00765	.06936	.00657	.44719	.24194
4.999	-2.020	.50327	-.02569	.02718	.00258	.00402	.06819	.00648	.44905	.24145
4.999	.000	.50478	-.02299	.00667	.00084	.00039	.06927	.00667	.44817	.24224
4.999	2.030	.50488	-.02492	-.01315	-.00207	-.00285	.06789	.00638	.44886	.24096
4.999	4.030	.50105	-.02498	-.03424	-.00362	-.00648	.06799	.00648	.44523	.23968
4.999	6.030	.50036	-.02451	-.05671	-.00459	-.00991	.06946	.00657	.44405	.24076
4.999	8.090	.49742	-.02523	-.08045	-.00655	-.01324	.06985	.00677	.44120	.24018
4.999	10.020	.49261	-.02482	-.10360	-.00841	-.01619	.07162	.00677	.43600	.24008
GRADIENT		-.00028	.00007	-.01017	-.00107	-.00174	-.00015	-.00001	-.00020	-.00025

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MSFC 581(Q49) ORB 34-0 (BCFM) (ME) (VR) (LI=15)

(R92224) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = .000
 SPDPRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.150

RUN NO. 321/ 0 RV/L = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-10.020	-.05563	-.02226	.15953	-.00379	.00863	.09085	.00569	-.05324	.09105
4.99	-8.120	-.05494	-.02254	.12911	-.00267	.00667	.08879	.00579	-.05465	.08899
4.99	-6.090	-.05406	-.02369	.09872	-.00184	.00491	.08712	.00569	-.05376	.08722
4.99	-4.090	-.05200	-.02259	.06956	-.00100	.00334	.08644	.00569	-.05170	.08663
4.99	-2.030	-.05671	-.02267	.03787	.00119	.00157	.08457	.00569	-.05641	.08477
4.99	-.010	-.05151	-.02442	.00805	.00203	.00049	.08290	.00569	-.05121	.08310
4.99	2.030	-.05033	-.02450	-.01972	.00151	-.00059	.08359	.00598	-.05004	.08379
4.99	4.030	-.05504	-.02370	-.05004	.00322	-.00235	.08565	.00579	-.05475	.08575
4.99	6.090	-.05847	-.02289	-.08182	.00394	-.00402	.08732	.00589	-.05818	.08761
4.99	8.100	-.06004	-.02282	-.11096	.00557	-.00500	.08967	.00589	-.05965	.08987
4.99	10.020	-.06290	-.02102	-.14206	.00829	-.00677	.09183	.00618	-.06220	.09203
GRADIENT		.00002	-.00020	-.01468	.00043	-.00067	-.00013	.00002	.00002	-.00014

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 10.000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = .000
 SPDPRK = 55.000 RUDDER = .000
 CONFIG = 3.000 VENTRL = 1.150

MSFC 581(Q49) ORB 34-0 (BCFM) (ME) (VR) (LI=15)

(R92225) (22 MAY 74)

RUN NO. 322/ 0 RV/L = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-10.010	.17575	-.02160	.19628	.00102	.01383	.07712	.00598	.15757	.10635
4.99	-8.090	.17474	-.02139	.11037	.00042	.01177	.07574	.00598	.15884	.10517
4.99	-6.090	.17856	-.01949	.08457	.00030	.00971	.07505	.00598	.16257	.10517
4.99	-4.080	.17336	-.01986	.05946	-.00059	.00687	.07358	.00589	.15776	.10282
4.99	-2.030	.17517	-.01600	.03444	.00215	.00412	.07260	.00579	.15786	.10184
4.99	.000	.17595	-.01744	.00736	.00055	.00118	.07280	.00589	.15845	.10213
4.99	2.030	.17277	-.01687	-.01835	.00083	-.00177	.07348	.00589	.15727	.10253
4.99	4.030	.16993	-.01615	-.04278	.00092	-.00471	.07358	.00608	.15443	.10223
4.99	6.070	.16885	-.01655	-.06848	.00101	-.00736	.07427	.00618	.15325	.10272
4.99	8.090	.16689	-.01658	-.09497	.00040	-.00971	.07525	.00618	.15109	.10331
4.99	10.020	.16218	-.01733	-.12146	-.00080	-.01207	.07633	.00628	.14628	.10360
GRADIENT		-.00036	.00032	-.01271	.00008	-.00143	.00004	.00002	-.00036	-.00002

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MSFC 581(0449) CRB 34-0 (BCFM) (NE) (VR) (L2=OPEN)

(R92227) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 ALLRON = -.670 BDPLAP = .000
 SPDRK = 55.000 RUDDER = .000
 CONFIC = 4.000 VENTRL = 1.450

RUN NO. 341/ 0 RV/L = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	.030	-.04336	-.02487	.00667	-.00132	-.00059	.08761	.00389	-.04336	.08761
4.99	1.940	-.00667	-.02138	.00785	-.00170	-.00059	.08585	.00608	-.00961	.08555
4.99	3.960	.03650	-.02011	.00765	-.00210	-.00078	.08339	.00618	.03061	.08565
4.99	6.010	.08016	-.02000	.00755	-.00278	-.00108	.08084	.00638	.07123	.08879
4.99	8.050	.12980	-.01950	.00805	-.00337	-.00128	.07908	.00638	.11744	.09654
4.99	10.080	.18396	-.01689	.00922	-.00365	-.00147	.07927	.00648	.16718	.11028
4.99	12.120	.23900	-.01795	.01040	-.00511	-.00196	.07839	.00667	.21712	.12686
4.99	14.160	.29973	-.01949	.01089	-.00570	-.00186	.07810	.00648	.27147	.14913
4.99	16.200	.36321	-.02022	.01207	-.00579	-.00206	.07761	.00638	.32710	.17591
4.99	18.270	.43090	-.02281	.01197	-.00607	-.00226	.07682	.00657	.38508	.20809
4.99	20.210	.49987	-.02587	.01315	-.00784	-.00285	.07810	.00667	.44209	.24606
4.99	GRADIENT	.02033	.00120	.00025	-.00020	-.00005	-.00107	.00007	.01883	-.00049

MSFC 581(0449) CRB 34-0 (BCFM) (NE) (VR) (L2=OPEN)

(R92228) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 ALLRON = -.670 BDPLAP = 16.300
 SPDRK = 55.000 RUDDER = .000
 CONFIC = 4.000 VENTRL = 1.450

RUN NO. 358/ 0 RV/L = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	.030	-.04091	-.02706	.00736	-.00063	-.00069	.08850	.00648	-.04091	.08850
4.99	1.930	-.00530	-.02600	.00785	-.00151	-.00069	.08683	.00657	-.00824	.08653
4.99	3.970	.04081	-.02333	.00775	-.00151	-.00078	.08555	.00677	.03473	.08820
4.99	6.020	.08859	-.02422	.00893	-.00189	-.00098	.08212	.00687	.07947	.09095
4.99	8.050	.13745	-.02605	.00883	-.00307	-.00177	.08104	.00697	.12480	.09948
4.99	10.080	.19151	-.02586	.00932	-.00326	-.00186	.08143	.00677	.17434	.11381
4.99	12.140	.24950	-.02793	.00991	-.00433	-.00206	.08094	.00716	.22693	.13166
4.99	14.160	.30974	-.02987	.01177	-.00461	-.00206	.08153	.00697	.28040	.15482
4.99	16.200	.37890	-.03380	.01158	-.00520	-.00245	.08143	.00697	.34103	.18396
4.99	18.270	.45278	-.04161	.01148	-.00628	-.00275	.08231	.00697	.40412	.22016
4.99	20.210	.52283	-.04543	.01266	-.00676	-.00275	.08487	.00716	.46122	.26039
4.99	GRADIENT	.02077	.00095	.00010	-.00022	-.00003	-.00075	.00007	.01922	-.00006

MSFC 501(0449) OFB 34-0 (BCFM) (WE) (W1)(L2=OPEN)

(R92229) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XMRP = 1081.3900 IN.
 LREF = 481.6480 IN. YMRP = .0000 IN.
 BREF = 936.7500 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AILRON = -.670 BCLAP = -11.700
 SPDPRK = 55.000 RUDDER = .000
 CONFIG = 4.000 VENTRL = 1.450

RUN NO. 361/ 0 RW/L = 4.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.010	-.03983	-.05944	.00805	-.00288	-.00078	.11194	.01648	-.03993	.11185
2.990	1.930	.01207	-.05977	.00834	-.00317	-.00098	.11057	.01697	.00824	.11087
2.990	4.010	.06495	-.05921	.00775	-.00308	-.00147	.10724	.01707	.05750	.11145
2.990	6.100	.12519	-.05883	.00716	-.00298	-.00137	.10302	.01688	.11351	.11577
2.990	8.170	.18759	-.05824	.00656	-.00286	-.00128	.10047	.01697	.17130	.12617
2.990	10.240	.25371	-.05757	.00605	-.00286	-.00128	.09880	.01707	.23203	.14236
2.990	12.320	.32112	-.05677	.00557	-.00286	-.00128	.09674	.01727	.29306	.16306
2.990	14.390	.38754	-.05597	.00512	-.00286	-.00128	.09517	.01746	.35163	.18847
2.990	16.470	.46043	-.05512	.00474	-.00286	-.00128	.09311	.01737	.41511	.21977
2.990	18.550	.53421	-.05438	.00439	-.00286	-.00128	.09124	.01766	.47741	.25656
2.990	20.590	.60740	-.05366	.00401	-.00286	-.00128	.08928	.01776	.53735	.29688
2.990	GRADIENT	.02619	.00006	-.00008	-.00005	-.00017	-.00118	.00015	.02430	-.00009

RUN NO. 360/ 0 RW/L = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.030	-.04906	-.02390	.00540	.00004	-.00020	.08683	.00618	-.04906	.08683
4.999	1.930	-.01256	-.02167	.00657	-.00004	-.00039	.08555	.00648	-.01540	.08506
4.999	3.960	.03316	-.01988	.00569	-.00133	-.00039	.08251	.00657	.02737	.08467
4.999	5.990	.07712	-.01763	.00755	-.00121	-.00039	.08025	.00648	.06829	.08781
4.999	8.030	.12607	-.01810	.00677	-.00230	-.00098	.07770	.00648	.11391	.09458
4.999	10.080	.17837	-.01533	.00726	-.00230	-.00098	.07780	.00667	.16198	.10782
4.999	12.140	.23488	-.01579	.00644	-.00356	-.00128	.07672	.00687	.21349	.12440
4.999	14.160	.29257	-.01612	.00693	-.00415	-.00167	.07613	.00677	.26500	.14540
4.999	16.200	.35114	-.01480	.01079	-.00442	-.00157	.07525	.00687	.31621	.17032
4.999	18.250	.42619	-.01776	.01128	-.00491	-.00177	.07594	.00677	.38096	.20554
4.999	20.210	.49360	-.01939	.01246	-.00608	-.00167	.07653	.00687	.43669	.24233
4.999	GRADIENT	.02594	.00152	.00007	-.00035	-.00005	-.00110	.00010	.01947	-.00055

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MSFC 581(0449) ORB 34-0 (BCFM) (ME) (VR) (L2-OPEN)

(R92230) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = .000
 ELEVTR = 4.160
 AIRLON = -.670
 BDFLAP = -11.700
 SPDRK = 55.000
 RUDDER = .000
 CONFIC = 4.000
 VENTRL = 1.450

PARAMETRIC DATA

RUN NO. 317/ 0 RWL = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-10.020	-0.9838	-0.02337	.16475	-0.00767	.00775	.09595	.00569	-0.05798	.09615
4.99	-8.110	-0.5632	-0.02218	.13363	-0.0607	.00598	.09350	.00599	-0.05602	.09360
4.99	-6.090	-0.3508	-0.02396	.10321	-0.0435	.00422	.09213	.00549	-0.05269	.09232
4.99	-4.070	-0.5514	-0.02361	.07142	-0.0344	.00285	.08928	.00530	-0.05484	.08948
4.99	-2.050	-0.3426	-0.02388	.04032	-0.0045	.00118	.08722	.00540	-0.05396	.08742
4.99	-0.010	-0.5386	-0.02494	.01138	.00029	-0.00029	.08614	.00569	-0.05357	.08624
4.99	2.030	-0.5324	-0.02593	-0.01776	-0.00137	.00137	.08653	.00559	-0.05494	.08673
4.99	4.030	-0.5739	-0.02374	-0.04876	.00186	-0.0245	.08830	.00569	-0.05700	.08850
4.99	6.070	-0.6044	-0.02234	-0.07976	.00386	-0.0422	.08948	.00579	-0.06014	.08967
4.99	8.100	-0.6269	-0.02170	-0.11028	.00439	-0.0549	.09154	.00598	-0.06240	.09173
4.99	10.020	-0.6534	-0.02150	-0.14000	.00542	-0.0706	.09389	.00608	-0.06505	.09419
GRADIENT		-0.0027	-0.0011	-0.01474	.00051	-0.0065	-0.00013	.00005	-0.00026	-0.00013

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 10.000
 ELEVTR = 4.160
 AIRLON = -.670
 BDFLAP = -11.700
 SPDRK = 55.000
 RUDDER = .000
 CONFIC = 4.000
 VENTRL = 1.450

PARAMETRIC DATA

RUN NO. 314/ 0 RWL = 5.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-10.000	.16895	-0.01506	.14462	-0.00509	.01236	.08457	.00589	.15158	.11283
4.99	-8.100	.17111	-0.01864	.11754	-0.00473	.01090	.08251	.00598	.15403	.11116
4.99	-6.080	.17297	-0.01794	.09173	-0.00445	.00814	.08124	.00589	.15609	.11028
4.99	-4.040	.17591	-0.01719	.06593	-0.00515	.00579	.07918	.00569	.15433	.10792
4.99	-2.020	.17101	-0.01758	.03885	-0.00410	.00294	.07839	.00569	.15472	.10714
4.99	.000	.16973	-0.01538	.01256	-0.00343	.00000	.07702	.00579	.15364	.10557
4.99	2.010	.16649	-0.01446	-0.01246	-0.00275	-0.00255	.07643	.00569	.15050	.10439
4.99	4.030	.16689	-0.01416	-0.03885	-0.00218	-0.00540	.07496	.00569	.15119	.10302
4.99	6.050	.16571	-0.01447	-0.06652	-0.00133	-0.00805	.07545	.00589	.14991	.10331
4.99	8.100	.16404	-0.01634	-0.09301	-0.00233	-0.01040	.07643	.00569	.14815	.10400
4.99	10.020	.15845	-0.01420	-0.11813	-0.00283	-0.01246	.07692	.00569	.14255	.10341
GRADIENT		-0.00062	.00046	-0.01293	.00036	-0.00138	-0.00032	.00000	-0.00052	-0.00062

MSFC 581(0A49) CRB 34-0 (BCFM) (WE) (LR) (L2-OPEN)

(R92232) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AIRCON = -.670 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONF16 = 4.000 VENTRL = 1.450

RUN NO. 306/ 0 RML = 4.16 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.120	.6093	-.03577	.15649	.00178	.02011	.09271	.01874	.52833	.30091
2.990	-6.190	.6063	-.03471	.12997	.00103	.01609	.09144	.01844	.52852	.29953
2.990	-6.190	.6044	-.03103	.09664	-.00009	.01207	.09105	.01815	.52852	.29914
2.990	-4.110	.59808	-.03030	.06779	-.00082	.00726	.09007	.01756	.52666	.29757
2.990	-2.040	.59965	-.02863	.03934	-.00184	.00245	.09065	.01786	.52784	.29855
2.990	.000	.59838	-.02759	.01590	-.00507	-.00069	.08879	.01776	.52735	.29639
2.990	2.030	.59612	-.02646	-.00687	-.00840	-.00363	.08958	.01795	.52499	.29620
2.990	4.080	.59445	-.02736	-.03336	-.00979	-.00795	.08791	.01825	.52401	.29404
2.990	6.120	.59131	-.02857	-.06377	-.01543	-.01236	.08751	.01864	.52126	.29257
2.990	8.180	.58896	-.02948	-.09232	-.01155	-.01648	.08742	.01894	.51910	.29159
2.990	10.130	.58857	-.02929	-.12274	-.01229	-.02021	.08742	.01884	.51871	.29149
GRADIENT		-.00053	.00039	-.01215	-.00120	-.00179	-.00026	.00007	-.00040	-.00044

RUN NO. 307/ 0 RML = 5.04 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	-10.000	.49203	-.02242	.12941	.00018	.01501	.08379	.00618	.43129	.25126
4.999	-6.100	.49458	-.02199	.10763	-.00108	.01246	.08271	.00648	.43404	.25116
4.999	-6.080	.49634	-.02331	.08438	-.00333	.00912	.08094	.00628	.43630	.25018
4.999	-4.040	.49379	-.02055	.06191	-.00420	.00768	.07908	.00628	.43453	.24753
4.999	-2.020	.49644	-.01828	.03675	-.00518	.00245	.07731	.00608	.43767	.24675
4.999	.000	.49458	-.01889	.01629	-.00683	-.00069	.07662	.00598	.43610	.24547
4.999	2.030	.49046	-.01983	-.00275	-.00866	-.00392	.07515	.00598	.43277	.24263
4.999	4.040	.48849	-.01860	-.02521	-.00992	-.00755	.07427	.00608	.43129	.24106
4.999	6.080	.49222	-.01787	-.04768	-.01079	-.01089	.07486	.00618	.43453	.24302
4.999	8.100	.48722	-.01804	-.07211	-.01197	-.01432	.07555	.00638	.42963	.24184
4.999	10.020	.48202	-.01687	-.09389	-.01382	-.01678	.07672	.00648	.42433	.24116
GRADIENT		-.00042	.00012	-.01067	-.00074	-.00167	-.00058	-.00002	-.00056	-.00084

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TABULATED SOURCE DATA - 0449

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MSFC 581(0449) CRB 34-0 (BCFNO) (NE) (VR) (L2=OPEN)

(R92233) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = .000
 SPOBRK = 55.000 RUDDER = .000
 CONF16 = 4.000 VENTRL = 1.450

PARAMETRIC DATA

RUN NO. 336/ 0 RW/L = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-10.010	-0.9946	-0.0203	.1632	-.00845	.00775	.09634	.00808	-.0916	.09654
4.99	-8.110	-0.9798	-.02133	.13490	-.00655	.00648	.09438	.00808	-.03769	.09458
4.99	-6.090	-0.9596	-.02280	.10390	-.00513	.00412	.09232	.00808	-.05857	.09271
4.99	-4.070	-0.9346	-.02426	.07339	-.00479	.00285	.08987	.00808	-.05916	.09057
4.99	-2.050	-0.9504	-.02351	.04170	-.00191	.00118	.08771	.00808	-.05475	.08791
4.99	.000	-0.9749	-.02587	.01197	-.00118	-.00029	.08683	.00808	-.05720	.08702
4.99	2.030	-0.9700	-.02499	-.01580	-.00121	-.00096	.08702	.00808	-.05671	.08722
4.99	4.030	-0.9053	-.02195	-.04690	.00109	-.00226	.08869	.00808	-.06024	.08889
4.99	6.090	-0.6191	-.02101	-.07986	.00347	-.00373	.08889	.00808	-.06152	.08908
4.99	8.080	-0.6790	-.02080	-.10969	.00381	-.00491	.09114	.00648	-.06701	.09144
4.99	10.020	-0.6885	-.01978	-.13942	.00474	-.00677	.09350	.00638	-.06956	.09379
GRADIENT		-.00020	.00015	-.01471	.00062	-.00061	-.00015	.00000	-.00020	-.00015

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6400 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 10.000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = .000
 SPOBRK = 55.000 RUDDER = .000
 CONF16 = 4.000 VENTRL = 1.450

PARAMETRIC DATA

RUN NO. 337/ 0 RW/L = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-10.000	1.6824	-.02138	.14805	-.00634	.01217	.08732	.00648	.15138	.15157
4.99	-8.100	1.7003	-.02175	.12087	-.00627	.01020	.08487	.00648	.15246	.15232
4.99	-6.080	1.6777	-.02179	.09438	-.00678	.00805	.08290	.00648	.15070	.15106
4.99	-4.060	1.6728	-.02035	.06858	-.00719	.00530	.08114	.00628	.15050	.15020
4.99	-2.020	1.6816	-.01898	.04287	-.00573	.00304	.07986	.00608	.15158	.15012
4.99	.000	1.6492	-.02029	.01590	-.00438	.00020	.07878	.00638	.14854	.15045
4.99	2.030	1.6512	-.01912	-.01090	-.00362	-.00255	.07790	.00638	.14893	.15111
4.99	4.030	1.6178	-.01744	-.03748	-.00227	-.00500	.07643	.00648	.14589	.15351
4.99	6.090	1.6110	-.01803	-.06456	-.00220	-.00785	.07682	.00638	.14520	.15360
4.99	8.090	1.6012	-.01717	-.08977	-.00250	-.00991	.07761	.00648	.14403	.15439
4.99	10.020	1.5629	-.01627	-.11626	-.00301	-.01197	.07829	.00628	.14020	.15449
GRADIENT		-.00069	.00028	-.01312	.00059	-.00129	-.00056	.00003	-.00059	-.00069

MSFC 501(0449) ORB 34-0 (BCFM) (NE) (L2=OPEN)

(R92235) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XREF = 1061.3900 IN.
 LREF = 481.6400 IN. YREF = .0000 IN.
 BREF = 936.7000 IN. ZREF = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AILRON = -.670 BCFAP = .000
 SPDRK = 55.000 RUDDER = .000
 CONF16 = 4.000 VENTRL = 1.450

RUN NO. 338/ 0 RWL = 5.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	COL	CAP	CAB	CL	CD
4.99	-10.000	.49477	-.02808	.13353	-.00165	.01432	.06751	.00687	.43257	.25568
4.99	-8.100	.49372	-.03035	.11096	-.00370	.01148	.06644	.00687	.43551	.25568
4.99	-6.000	.49683	-.02930	.08781	-.00448	.00834	.06438	.00687	.43551	.25352
4.99	-4.040	.49330	-.02849	.06465	-.00614	.00549	.06202	.00687	.43506	.25006
4.99	-2.020	.49527	-.02585	.04346	-.00671	.00226	.07996	.00677	.43542	.24871
4.99	.000	.49477	-.02576	.02031	-.00807	-.00098	.07957	.00677	.43522	.24832
4.99	2.030	.49222	-.02473	.00049	-.00991	-.00383	.07702	.00667	.43385	.24498
4.99	4.040	.48898	-.02662	-.02384	-.01099	-.00775	.07564	.00687	.43129	.24253
4.99	6.060	.48947	-.02623	-.04582	-.01195	-.01089	.07712	.00687	.43120	.24410
4.99	8.080	.48653	-.02628	-.07015	-.01343	-.01403	.07702	.00706	.42845	.24292
4.99	10.020	.48231	-.02402	-.09330	-.01431	-.01658	.07839	.00706	.42413	.24282
4.99	GRADIENT	-.00057	.00024	-.01088	-.00064	-.00161	-.00078	-.00000	-.00025	-.00093

MSFC 501(0449) ORB 34-0 (BCFM) (NE) (L2=CLOSED)

(R92236) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT XREF = 1061.3900 IN.
 LREF = 481.6400 IN. YREF = .0000 IN.
 BREF = 936.7000 IN. ZREF = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = .000 ELEVTR = 4.160
 AILRON = -.670 BCFAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONF16 = 4.000 VENTRL = .000

RUN NO. 338/ 0 RWL = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	COL	CAP	CAB	CL	CD
4.99	-10.020	-.05680	-.01996	.15757	-.00351	.00654	.09026	.00559	-.05661	.09046
4.99	-8.120	-.05357	-.02097	.12715	-.00170	.00677	.08689	.00559	-.05327	.08889
4.99	-6.090	-.05288	-.01980	.09674	-.00078	.00510	.08702	.00540	-.05259	.08712
4.99	-4.070	-.05543	-.02052	.06829	-.00032	.00343	.08555	.00540	-.05514	.08575
4.99	-2.030	-.05308	-.02329	.03650	.00099	.00157	.08320	.00530	-.05288	.08339
4.99	.000	-.05249	-.02453	.00677	.00172	.00029	.08241	.00559	-.05219	.08261
4.99	2.030	-.05386	-.02252	-.02100	.00218	-.00029	.08330	.00540	-.05357	.08349
4.99	4.030	-.05524	-.02139	-.05141	.00370	-.00186	.08565	.00559	-.05494	.08575
4.99	6.070	-.05867	-.02154	-.08251	.00413	-.00343	.08732	.00559	-.05838	.08751
4.99	8.100	-.06318	-.02084	-.11224	.00555	-.00510	.08938	.00589	-.06289	.08967
4.99	10.020	-.06672	-.01992	-.14334	.00618	-.00706	.09173	.00579	-.06642	.09193
4.99	GRADIENT	-.00002	-.00005	-.01465	.00046	-.00062	.00001	.00002	-.00001	.00000



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TABULATED SOURCE DATA - ON49

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MFC 501(ON49) OF 34-0 (BCFN) (WE) (VR) (L2LOQED)

(192237) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 94. FT YMRP = 1561.3900 IN.
 LREF = 481.6400 IN. YMRP = .0000 IN.
 BREF = 936.1000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 10.000 ELEVTR = 4.100
 AILSON = -.670 BCSLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONF16 = 4.000 VENTRL = .000

RUN NO. 323 0 RWL = 4.92 GRADIENT INTERVAL = -.5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
4.99	-10.010	.17995	-.01579	.13294	.00354	.01462	.07515	.00998	.19806	.10439
4.99	-8.090	.17366	-.01522	.10714	.00265	.01207	.07427	.00989	.15796	.10351
4.99	-6.070	.17179	-.01758	.08133	.00155	.00991	.07309	.00998	.15639	.10204
4.99	-4.060	.16934	-.01806	.05681	.00106	.00715	.07192	.00579	.15413	.10047
4.99	-2.020	.17130	-.01506	.03179	.00134	.00432	.07172	.00579	.15609	.10066
4.99	.000	.16738	-.01290	.00530	.00132	.00118	.07123	.00569	.15237	.09948
4.99	2.030	.17561	-.01323	-.01894	.00190	-.00186	.07201	.00569	.15531	.10076
4.99	4.030	.16922	-.01265	-.04435	.00140	-.00432	.07162	.00569	.14991	.09939
4.99	6.070	.16797	-.01376	-.07034	.00079	-.00736	.07280	.00569	.15256	.10115
4.99	8.090	.16394	-.01402	-.09497	.00020	-.00981	.07358	.00569	.14854	.10115
4.99	10.010	.15972	-.01370	-.12077	-.00001	-.01177	.07535	.00569	.14412	.10213
	GRADIENT	-.00046	.00043	-.01248	.00006	-.00144	-.00001	.00000	-.00045	-.00010

MSFC 581(0449) CRB 34-0 (BCFM) (ME) (VR) (L2CLOSED)

(R92238) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

XMRP = 1001.3900 IN.
 YMRP = .0000 IN.
 ZMRP = .0000 IN.

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AILRON = -.670 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 4.000 VENTRL = .000

RUN NO. 331/ 0 RWL = 4.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.130	.60054	-.02813	.14324	.01089	.02158	.08094	.01903	.53215	.28982
2.990	-8.210	.59975	-.02747	.11342	.00996	.01727	.08045	.01884	.53156	.28903
2.990	-6.160	.59799	-.02537	.08604	.00816	.01344	.08045	.01884	.52960	.28825
2.990	-4.120	.59661	-.02452	.05592	.00723	.00844	.08016	.01835	.52882	.28766
2.990	-2.050	.59583	-.02327	.02826	.00533	.00373	.08114	.01825	.52764	.28835
2.990	-.010	.59475	-.02319	.00618	.00142	.00029	.08084	.01786	.52685	.28756
2.990	2.050	.59318	-.02206	-.01619	-.00268	-.00235	.08153	.01776	.52509	.28766
2.990	4.070	.59072	-.02239	-.04229	-.00437	-.00697	.08065	.01815	.52313	.28599
2.990	6.130	.58876	-.02377	-.07152	-.00559	-.01168	.08084	.01854	.52126	.28540
2.990	8.160	.58700	-.02496	-.10007	-.00739	-.01589	.08153	.01894	.51930	.28540
2.990	10.120	.58454	-.02471	-.12902	-.00852	-.01952	.08212	.01884	.51695	.28501
GRADIENT		-.00070	.00027	-.01176	-.00152	-.00182	.00007	-.00004	-.00068	-.00020

RUN NO. 324/ 0 RWL = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	-10.010	.48830	-.01687	.11322	.01153	.01717	.07074	.00628	.43228	.23782
4.999	-8.110	.49409	-.01764	.09134	.00978	.01442	.06995	.00648	.43806	.23910
4.999	-6.070	.49418	-.01639	.06878	.00773	.01118	.06887	.00638	.43846	.23811
4.999	-4.070	.49222	-.01468	.04896	.00531	.00785	.06711	.00638	.43728	.23586
4.999	-2.020	.49036	-.01432	.02708	.00366	.00412	.06672	.00638	.43561	.23468
4.999	.000	.49065	-.01460	.00530	.00122	.00039	.06652	.00618	.43600	.23468
4.999	2.030	.49026	-.01393	-.01187	-.00186	-.00265	.06632	.00618	.43571	.23439
4.999	4.030	.48810	-.01329	-.03297	-.00341	-.00638	.06642	.00608	.43365	.23360
4.999	6.070	.48673	-.01409	-.05612	-.00537	-.00991	.06711	.00628	.43208	.23380
4.999	8.100	.48369	-.01462	-.07927	-.00742	-.01344	.06838	.00648	.42884	.23390
4.999	10.020	.48035	-.01448	-.10115	-.00946	-.01629	.06956	.00628	.42531	.23380
GRADIENT		-.00041	.00016	-.01002	-.00113	-.00174	-.00008	-.00004	-.00035	-.00024



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TABULATED SOURCE DATA - 0449

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MSFC 581(0449) CRB 34-0 (BCFM) (NE) (L2CLOSED)

(R92239) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = .000
 ELEVTR = 4.160
 AIRLON = -.670
 BDFLAF = .000
 SPDGRK = 55.000
 RUDDER = .000
 CONFIG = 4.000
 VENTRL = .000

PARAMETRIC DATA

RUN NO. 334/ 0 RV/L = 5.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
4.99	-10.020	-0.0003	-0.02012	.15757	-.00293	.00893	.09056	.00638	-.00034	.09075
4.99	-8.120	-0.0018	-0.02056	.12578	-.00162	.00706	.08918	.00628	-.00789	.08938
4.99	-6.070	-0.0059	-0.02026	.09664	-.00097	.00540	.08644	.00618	-.00730	.08663
4.99	-4.070	-0.0061	-0.02218	.06691	-.00043	.00363	.08206	.00618	-.00632	.08226
4.99	-2.030	-0.0049	-0.02303	.03650	.00118	.00167	.08369	.00608	-.00565	.08388
4.99	-.010	-0.0051	-0.02303	.00805	.00222	.00069	.08281	.00618	-.00562	.08300
4.99	2.010	-0.0047	-0.02444	-.02041	.00170	-.00010	.08330	.00608	-.005818	.08349
4.99	4.030	-0.0075	-0.02184	-.02510	.00399	-.00177	.08536	.00608	-.005946	.08555
4.99	6.070	-0.0048	-0.02181	-.08192	.00394	-.00324	.08761	.00618	-.006318	.08781
4.99	8.100	-0.0642	-0.02002	-.11165	.00507	-.00441	.08958	.00618	-.006033	.08977
4.99	10.020	-0.07025	-0.01950	-.14206	.00609	-.00677	.09095	.00638	-.006995	.09114
4.99	GRADIENT	-.00048	-.00004	-.01457	.00042	-.00062	.00001	-.00001	-.00048	.00001

MSFC 581(0449) CRB 34-0 (BCFM) (NE) (L2CLOSED)

(R92240) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 10.000
 ELEVTR = 4.160
 AIRLON = -.670
 BDFLAF = .000
 SPDGRK = 55.000
 RUDDER = .000
 CONFIG = 4.000
 VENTRL = .000

PARAMETRIC DATA

RUN NO. 334/ 0 RV/L = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
4.99	-10.010	.17474	-.01916	.13294	.00276	.01413	.07437	.00657	.15894	.10390
4.99	-8.110	.17405	-.01937	.10782	.00196	.01168	.07231	.00657	.15874	.10164
4.99	-6.090	.17513	-.01984	.08261	.00107	.00961	.07162	.00648	.15982	.10115
4.99	-4.070	.17226	-.01708	.05818	.00097	.00736	.07133	.00638	.15708	.10037
4.99	-2.020	.17434	-.01617	.03306	.00106	.00441	.07044	.00638	.15933	.09988
4.99	.000	.17003	-.01769	.00736	.00134	.00137	.07015	.00638	.15511	.09880
4.99	2.030	.16924	-.01654	-.01766	.00103	-.00167	.07025	.00648	.15433	.09880
4.99	4.030	.16679	-.01620	-.04209	.00044	-.00422	.07005	.00628	.15197	.09821
4.99	6.070	.16551	-.01631	-.00779	.00101	-.00726	.07133	.00648	.15050	.09919
4.99	8.070	.16335	-.01548	-.09370	.00031	-.00922	.07280	.00657	.14805	.10027
4.99	10.010	.16120	-.01706	-.11950	-.00039	-.01158	.07358	.00628	.14579	.10066
4.99	GRADIENT	-.00079	.00007	-.01241	-.00005	-.00144	-.00014	-.00000	-.00075	-.00027

MSFC 581(0449) ORB 34-0 (BCFM) (WE) (VR) (L2-OPEN) (R92241) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 20.000
 ELEVTR = 4.160
 AILRON = -.670
 BDFLAP = .000
 SPDRK = 55.000
 RUDDER = .000
 CONFIG = 4.000
 VENTRL = .000

PARAMETRIC DATA

RUN NO. 333/ 0 RWL = 5.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.010	.50066	-.02286	.11391	.01163	.01756	.07054	.00687	.44395	.24194
4.959	-6.110	.50086	-.02402	.09203	.00909	.01442	.06946	.00697	.44444	.24096
4.959	-6.090	.49968	-.02578	.06219	.00713	.01089	.06779	.00706	.44405	.23900
4.959	-4.060	.49899	-.02279	.04827	.00491	.00805	.06642	.00697	.44385	.23743
4.959	-2.040	.49526	-.02140	.02649	.00346	.00441	.06613	.00667	.44042	.23596
4.959	.000	.49487	-.02121	.00726	.00104	.00088	.06632	.00677	.44022	.23596
4.959	2.030	.49507	-.01995	-.01187	-.00186	-.00235	.06613	.00697	.44022	.23596
4.959	4.030	.49173	-.02107	-.03493	-.00352	-.00608	.06573	.00677	.43728	.23429
4.959	6.050	.49438	-.02112	-.05612	-.00527	-.00942	.06750	.00687	.43914	.23684
4.959	8.070	.48771	-.01949	-.07986	-.00635	-.01295	.06917	.00706	.43228	.23605
4.959	10.010	.48388	-.01974	-.10105	-.00809	-.01589	.07064	.00706	.42816	.23605
GRADIENT		-.00075	.00024	-.01011	-.00110	-.00173	-.00007	-.00000	-.00066	-.00031

MSFC 581(0449) ORB 34-0 (BCFM) (WE) (VR) (L2-OPEN) (R92242) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

BETA = .000
 ELEVTR = -15.550
 AILRON = -.400
 BDFLAP = .000
 SPDRK = 55.000
 RUDDER = .000
 CONFIG = 4.000
 VENTRL = 1.450

PARAMETRIC DATA

RUN NO. 342/ 0 RWL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.020	-.06701	-.01287	.00598	-.00113	-.00088	.09007	.00598	-.06701	.08997
4.959	1.930	-.02904	-.00946	.00775	-.00160	-.00049	.08801	.00618	-.03198	.08702
4.959	.960	.01570	-.00836	.00765	-.00170	-.00078	.08575	.00628	.00971	.08663
4.959	5.990	.03965	-.00833	.00755	-.00288	-.00128	.08212	.00638	.05072	.08791
4.959	8.020	.10743	-.00525	.00805	-.00307	-.00137	.08016	.00648	.09517	.09438
4.959	10.080	.15668	-.00099	.00922	-.00326	-.00147	.07986	.00657	.14030	.10606
4.959	12.130	.20819	.00042	.00971	-.00404	-.00157	.07898	.00677	.18690	.12097
4.959	14.150	.26774	.00275	.00952	-.00483	-.00186	.07770	.00657	.24067	.14089
4.959	16.190	.32681	.00319	.01069	-.00531	-.00226	.07712	.00657	.29227	.16322
4.959	18.260	.39284	.00318	.01050	-.00629	-.00226	.07633	.00657	.34918	.19553
4.959	20.200	.45710	.00307	.01168	-.00736	-.00265	.07643	.00648	.40255	.22958
GRADIENT		.02100	.00114	.00042	-.00014	.00002	-.00110	.00007	.01948	-.00084

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TABULATED SOURCE DATA - 0449

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MFC 581(0449) CRB 34-0 (BCPM) (W) (L2-OPEN)

(192243) (22 MAY 74)

REFERENCE DATA

REF = 2741.0000 SF. FT
 LREF = 481.6400 IN.
 BREF = 936.7500 IN.
 SCALE = .0040

BETA = .000
 ALLCON = -.320
 SPOBK = 55.000
 CONF16 = 4.000

ELEVTR = -33.690
 BCFLAP = .000
 RUDDER = .000
 VENTRL = 1.450

PARAMETRIC DATA

RUN NO. 343 0 RWL = 5.09 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
4.999	.010	-.09791	.00599	.00590	-.00192	-.00098	.10851	.00618	-.09791	.10851
4.999	1.920	-.05314	.00599	.00648	-.00211	-.00059	.10341	.00828	-.05857	.10145
4.999	3.950	-.05673	.00740	.00599	-.00221	-.00099	.09850	.00637	-.01350	.09772
4.999	5.980	.04130	.00588	.00549	-.00319	-.00069	.09291	.00648	.03140	.09674
4.999	8.020	.09213	.00563	.00598	-.00329	-.00098	.08869	.00667	.07888	.10066
4.999	10.070	.14295	.00847	.00716	-.00347	-.00098	.08742	.00657	.12539	.11106
4.999	12.110	.19632	.00826	.00807	-.00446	-.00137	.08438	.00667	.17424	.12372
4.999	14.150	.25744	.00817	.00814	-.00553	-.00177	.08330	.00657	.22919	.14373
4.999	16.190	.31817	.00817	.00863	-.00611	-.00167	.08192	.00657	.28276	.16738
4.999	18.230	.38371	.00932	.00912	-.00660	-.00196	.08182	.00677	.33878	.19789
4.999	20.180	.44895	.01065	.01099	-.00707	-.00226	.08163	.00687	.39323	.23144
4.999	GRADIENT	.02264	.00046	.00007	-.00007	.00010	-.00254	.00010	.02092	-.00273

MSFC 581(0449) ORB 34-0 (BCFM) (WE) (L3=0)

(R92254) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT XREF = 1081.3900 IN.
 LREF = 481.6480 IN. YREF = .0000 IN.
 BREF = 936.7000 IN. ZREF = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRCRN = -.670 EDRLAP = .000
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 5.000 VENTRL = 1.000

RUN NO. 348/ 0 RW/L = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.020	-.03561	-.01082	.00157	.00168	-.00020	.10635	.01668	-.03561	.10635
2.990	1.960	-.01638	-.01183	.00137	.00148	-.00010	.10449	.01746	-.00010	.10449
2.990	4.020	.07456	-.01138	.00088	.00197	.00000	.10164	.01756	.06721	.10655
2.990	6.090	.13323	-.01248	.00029	.00206	.00000	.09801	.01737	.12205	.11165
2.990	8.170	.19563	-.01467	.00010	.00167	-.00010	.09477	.01707	.18013	.12166
2.990	10.250	.26264	-.01615	.00000	.00157	.00000	.09291	.01746	.24194	.13814
2.990	12.320	.33004	-.02123	-.00128	.00146	.00000	.09124	.01766	.30297	.15963
2.990	14.390	.39774	-.02257	.00010	.00157	-.00010	.08958	.01776	.36301	.18572
2.990	16.470	.47054	-.02585	.00000	.00108	-.00029	.08732	.01786	.42639	.21722
2.990	18.550	.54667	-.03015	-.00020	.00029	-.00049	.08545	.01805	.49104	.25499
2.990	20.590	.62084	-.03429	.00029	.00030	-.00020	.08359	.01815	.55187	.29629
2.990	GRADIENT	.02755	-.00014	-.00017	.00007	.00005	-.00118	.00022	.02571	.00006

RUN NO. 347/ 0 RW/L = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	.030	-.04376	-.02352	.00206	.00218	.00049	.08339	.00628	-.04386	.08339
4.999	1.940	-.00216	-.01996	.00255	.00159	.00069	.08104	.00638	-.00491	.08094
4.999	3.970	.03777	-.01922	.00108	.00177	.00069	.07890	.00648	.03228	.08045
4.999	6.000	.08271	-.01822	.00098	.00138	.00029	.07417	.00648	.07447	.08241
4.999	8.030	.13000	-.01775	.00088	.00207	.00000	.07309	.00648	.11852	.09056
4.999	10.080	.18195	-.01606	.00078	.00128	-.00010	.07103	.00648	.16630	.10174
4.999	12.120	.24184	-.01655	.00059	.00148	.00000	.07054	.00667	.22163	.11979
4.999	14.160	.29934	-.01766	.00049	.00108	-.00020	.06887	.00657	.27334	.14000
4.999	16.210	.36782	-.01899	.00098	.00128	-.00020	.06838	.00657	.33387	.16836
4.999	18.270	.43443	-.02092	.00157	.00099	-.00049	.06770	.00687	.39127	.20054
4.999	20.210	.50301	-.02243	.00206	.00051	-.00049	.06789	.00726	.44856	.23753
4.999	GRADIENT	.02068	.00108	-.00025	-.00010	.00005	-.00137	.00005	.01931	-.00074



W8FC 561(0449) CRB 34-0 (BCFNO (NE) (NR) (L3-15)) (R92235) (22 MAY 74)

REFERENCE DATA
MACH = 2.990
ALPHA = 0.000
LREF = 481.6400 IN.
BREF = 936.7550 IN.
SCALE = .0240
BETA = .000
ELEVTR = 4.100
AILRON = -.670
BDFLAP = .000
SPDRK = 55.000
RUDDER = .000
CONF16 = 5.000
VENTRL = 1.150

PARAMETRIC DATA

RUN NO. 349/ 0 RW/L = 4.13 GRADIENT INTERVAL = -5.00/ 5.00									
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CD
2.990	.020	-.03709	-.01191	.00343	.00032	-.00010	.10616	.01638	.10616
2.990	1.960	.01629	-.01096	.00334	.00091	.00000	.10527	.01707	.10576
2.990	4.020	.07309	-.01189	.00275	.00071	-.00010	.10204	.01746	.10694
2.990	6.110	.13216	-.01259	.00265	.00100	.00000	.09850	.01717	.11204
2.990	8.180	.19632	-.01485	.00285	.00071	.00000	.09595	.01687	.12293
2.990	10.250	.26166	-.01865	.00226	.00041	-.00020	.09379	.01717	.13892
2.990	12.320	.33161	-.02101	.00255	.00022	.00000	.09271	.01746	.16139
2.990	14.390	.39764	-.02334	.00353	-.00007	-.00020	.09056	.01766	.18661
2.990	16.460	.47270	-.02746	.00334	-.00039	.00000	.08869	.01776	.21928
2.990	18.570	.54757	-.03189	.00432	-.00153	.00039	.08732	.01805	.25705
2.990	20.590	.62055	-.03603	.00461	-.00183	.00049	.08526	.01825	.29777
GRADIENT		.02754	-.00000	-.00017	.00005	-.00000	-.00104	.00027	.00020

RUN NO. 350/ 0 RW/L = 4.99 GRADIENT INTERVAL = -5.00/ 5.00									
MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CD
4.959	.030	-.04903	-.02364	.00275	.00159	.00049	.08339	.00618	.08330
4.959	1.930	-.00657	-.02196	.00324	.00101	.00049	.08143	.00648	.08114
4.959	3.970	.03620	-.01896	.00177	.00149	.00059	.07927	.00648	.08163
4.959	6.010	.07947	-.01865	.00167	.00119	.00049	.07613	.00657	.08408
4.959	8.050	.13363	-.01779	.00216	.00100	.00049	.07358	.00648	.09164
4.959	10.080	.18043	-.01840	.00206	.00041	-.00020	.07250	.00657	.10302
4.959	12.140	.24096	-.01511	.00186	.00041	-.00020	.07152	.00667	.12068
4.959	14.160	.29816	-.01748	.00314	.00022	-.00039	.07133	.00687	.14216
4.959	16.220	.36527	-.01893	.00432	-.00046	-.00049	.07025	.00687	.16954
4.959	18.250	.43394	-.02122	.00481	-.00084	-.00078	.06985	.00697	.20230
4.959	20.210	.50017	-.02519	.00550	-.00231	-.00098	.06885	.00726	.23841
GRADIENT		.02062	.00119	-.00025	-.00002	.00003	-.00105	.00007	-.00042

MSFC 581(0A49) CRB 34-0 (BCFM) (WE) (LR) (L3=30)

(R92256) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000
 AILRON = -.670
 SPDRK = 55.000
 CONFIG = 5.000

ELEVTR = 4.160
 BDFLAP = .000
 RUDDER = .000
 VENTRL = 1.300

RUN NO. 351/ 0 RVL = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	.030	-.04209	-.02446	.00334	.00170	.00039	.08418	.00628	-.04219	.08418
4.99	1.940	-.05177	-.02324	.00392	.00072	.00039	.08173	.00657	-.00451	.08163
4.99	3.970	-.04150	-.02187	.00245	.00090	.00000	.07957	.00667	.03591	.08222
4.99	6.020	-.08428	-.02138	.00363	.00062	.00000	.07584	.00648	.07584	.08428
4.99	8.050	-.13412	-.02088	.00285	.00032	-.00029	.07447	.00648	.12234	.09262
4.99	10.090	-.18631	-.01956	.00471	.00023	-.00029	.07437	.00677	.17042	.10586
4.99	12.140	-.24263	-.02224	.00657	-.00093	-.00049	.07339	.00677	.22173	.12274
4.99	14.160	-.30306	-.02185	.00648	-.00093	-.00098	.07329	.00677	.33554	.17366
4.99	16.220	-.37076	-.02590	.00824	-.00248	-.00098	.07290	.00677	.39323	.20633
4.99	18.250	-.43806	-.02811	.00942	-.00336	-.00137	.07270	.00697	.45062	.24577
4.99	20.270	-.50792	-.03116	.01128	-.00383	-.00108	.07476	.00716	.50010	-.00182
4.99	GRADIENT	.02122	.00066	-.00023	-.00020	-.00010	-.00117	.00010		-.00049

MSFC 581(0A49) CRB 34-0 (BCFM) (WE) (LR) (L3=30)

(R92257) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = .000
 AILRON = -.670
 SPDRK = 55.000
 CONFIG = 5.000

ELEVTR = 4.160
 BDFLAP = .000
 RUDDER = .000
 VENTRL = 1.000

RUN NO. 318/ 0 RVL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-10.020	-.05533	-.02235	.15688	-.00323	.00854	.09144	.00579	-.05504	.09164
4.99	-8.110	-.08298	-.02357	.12646	-.00230	.00646	.08938	.00579	-.03259	.08958
4.99	-6.090	-.09249	-.02289	.09605	-.00098	.00471	.08761	.00559	-.05219	.08781
4.99	-4.070	-.08239	-.02221	.06760	.00006	.00343	.08614	.00569	-.03210	.08634
4.99	-2.030	-.09219	-.02453	.03660	.00177	.00167	.08487	.00559	-.05190	.08506
4.99	.000	-.08259	-.02579	.00608	.00221	.00000	.08300	.00569	-.05229	.08320
4.99	2.030	-.05327	-.02339	.00207	.00207	-.00009	.08300	.00549	-.05298	.08320
4.99	4.030	-.05632	-.02450	.00269	.00359	-.00216	.08594	.00569	-.05602	.08614
4.99	6.060	-.05690	-.02315	.00441	.00392	-.00392	.08771	.00579	-.05661	.08791
4.99	8.100	-.05975	-.02213	.01351	.00554	-.00510	.08967	.00608	-.05946	.08987
4.99	10.020	-.06250	-.02179	.02179	.00677	-.00677	.09242	.00608	-.06220	.09262
4.99	GRADIENT	-.00044	-.00017	-.01478	.00036	-.00067	-.00011	-.00000	-.00044	-.00011

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WSPC 501(0449) QRS 34-0 (BCFNO (NE) (NR) (L3=0)

(R92250) (22 MAY 74)

REFERENCE DATA

SRF = 2741.0000 SQ. FT
 LREF = 481.6400 IN.
 BRF = 936.7000 IN.
 SCALE = .0040

ALPHA = 10.000
 ALLCON =
 SPOBRK = 55.000
 CONFIC = 5.000

ELEVTR = 4.100
 BDFLAP = .000
 RUDDER = .000
 VENTRL = 1.000

PARAMETRIC DATA

RUN NO. 313/ 0 RWL = 4.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	COL	CAP	CAB	CL	CD
4.99	-10.010	.18082	-.02119	.13599	.00219	.01303	.07672	.02618	.16473	.10714
4.99	-8.110	.17974	-.02112	.11047	.00199	.01177	.07496	.00598	.16384	.10527
4.99	-6.090	.17974	-.02083	.08398	.00198	.00932	.07398	.00598	.16394	.10439
4.99	-4.050	.17856	-.01833	.05887	.00188	.00756	.07338	.00589	.16296	.10370
4.99	-2.030	.17532	-.01906	.03375	.00136	.00422	.07192	.00569	.16021	.10154
4.99	.000	.17326	-.01928	.00736	.00134	.00088	.07211	.00589	.15796	.10135
4.99	2.030	.17385	-.01899	-.01756	.00143	-.00196	.07192	.00569	.15855	.10125
4.99	4.050	.17415	-.01714	-.04336	.00170	-.00451	.07290	.00589	.15874	.10223
4.99	6.090	.17346	-.01773	-.06976	.00168	-.00726	.07388	.00598	.15776	.10311
4.99	8.070	.17111	-.01758	-.09556	.00118	-.00961	.07505	.00608	.15531	.10390
4.99	10.010	.16885	-.01829	-.12077	.00048	-.01168	.07584	.00598	.15295	.10419
GRADIENT		-.00052	.00012	-.01265	.00009	-.00145	-.00007	-.00000	-.00050	-.00016

N6FC 501(0449) ORB 34-0 (BCFM) (WE) (VR) (L3=0)

(R92259) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

ALPHA = 20.000
 AILRON = -.670
 SPDRK = 55.000
 CONFIG = 5.000

PARAMETRIC DATA

ELEVTR = 4.160
 BDFLAP = .000
 RUDDER = .000
 VENTRL = 1.000

RUN NO. 309/ 0 RWL = 4.13 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	-10.130	.61143	-.04082	.14511	.00894	.02119	.08281	.01923	.54167	.29541
2.990	-8.190	.61359	-.03867	.11548	.00860	.01697	.08241	.01903	.54334	.29571
2.990	-6.160	.61152	-.03685	.08644	.00689	.01324	.08222	.01864	.54196	.29492
2.990	-4.120	.60848	-.03526	.05641	.00635	.00844	.08173	.01825	.53922	.29345
2.990	-2.090	.61035	-.03387	.02826	.00465	.00373	.08261	.01825	.54069	.29492
2.990	-0.10	.60750	-.03353	.00549	.00103	.00200	.08271	.01805	.53804	.29394
2.990	2.090	.60848	-.03207	-.01688	-.00298	-.00265	.08339	.01815	.53873	.29502
2.990	4.070	.60397	-.03349	-.04307	-.00438	-.00687	.08281	.01835	.53470	.29276
2.990	6.120	.60397	-.03417	-.07309	-.00541	-.01138	.08281	.01874	.53470	.29266
2.990	8.180	.59965	-.03559	-.10233	-.00682	-.01560	.08290	.01903	.53068	.29129
2.990	10.130	.59828	-.03668	-.13196	-.00785	-.01943	.08408	.01903	.52901	.29188
GRADIENT		-.00053	.00026	-.01192	-.00142	-.00181	.00014	.00000	-.00053	-.00006

RUN NO. 308/ 0 RWL = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.999	-10.010	.50537	-.02714	.11518	.00938	.01707	.07201	.00657	.44788	.24508
4.999	-8.090	.50792	-.02690	.09321	.00763	.01432	.07113	.00667	.45052	.24508
4.999	-6.080	.50635	-.02528	.07005	.00577	.01099	.06907	.00667	.44974	.24253
4.999	-4.040	.50802	-.02642	.04758	.00373	.00746	.06819	.00667	.45160	.24233
4.999	-2.020	.50684	-.02276	.02649	.00287	.00412	.06779	.00648	.45072	.24165
4.999	.000	.50486	-.02153	.00598	.00093	.00029	.06848	.00648	.44866	.24145
4.999	2.030	.50459	-.02445	-.01383	-.00276	-.00294	.06711	.00648	.44837	.23988
4.999	4.030	.50115	-.02275	-.03493	-.00332	-.00638	.06711	.00638	.44562	.23890
4.999	6.070	.50262	-.02273	-.05799	-.00518	-.01011	.06838	.00657	.44650	.24057
4.999	8.100	.50105	-.02508	-.08182	-.00675	-.01324	.06885	.00667	.44454	.24145
4.999	10.020	.49438	-.02286	-.10370	-.00860	-.01619	.07133	.00677	.43777	.24037
GRADIENT		-.00082	.00028	-.01017	-.00100	-.00172	-.00014	-.00003	-.00071	-.00043

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MSFC 581(0449) CRB 34-0 (BCFM) (ME) (VR) (L3=15)

(R92260) (22 MAY 74)

REFERENCE DATA

SR EF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BR EF = 936.7000 IN.
 SCALE = .0040

ALPHA = .000
 ELEVTR = 4.160
 AIRLON = -.670
 BDR LAP = .000
 SPDRK = 55.000
 RUDDER = .000
 CNFTG = 5.000
 VENTRL = 1.150

PARAMETRIC DATA

RUN NO. 319/ 0 RWL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-10.020	-.05386	-.02088	.16021	-.00408	.00634	.09193	.00559	-.05357	.09203
4.99	-8.120	-.05298	-.02125	.12902	-.00306	.00648	.08977	.00579	-.05269	.08987
4.99	-6.090	-.05229	-.02231	.09801	-.00184	.00471	.08791	.00569	-.05200	.08801
4.99	-4.070	-.05347	-.02242	.06829	-.00071	.00334	.08673	.00569	-.05318	.08693
4.99	-2.030	-.05190	-.02307	.03787	-.00110	.00128	.08506	.00569	-.05161	.08526
4.99	.000	-.05229	-.02356	.00677	.00172	-.00020	.08290	.00569	-.05200	.08300
4.99	2.030	-.05347	-.02416	-.02100	.00179	-.00039	.08379	.00559	-.05318	.08398
4.99	4.030	-.05671	-.02267	-.05072	.00351	-.00206	.08634	.00569	-.05641	.08653
4.99	6.070	-.05867	-.02202	-.08251	.00433	-.00402	.08761	.00589	-.05838	.08781
4.99	8.090	-.06093	-.02215	-.11224	.00477	-.00530	.08948	.00598	-.06063	.08967
4.99	10.020	-.06554	-.02078	-.14206	.00609	-.00677	.09232	.00618	-.06515	.09252
4.99	GRADIENT	-.00040	-.00008	-.01465	.00045	-.00062	-.00010	-.00000	-.00040	-.00010

MSFC 581(0449) CRB 34-0 (BCFM) (ME) (VR) (L3=15)

(R92261) (22 MAY 74)

REFERENCE DATA

SR EF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BR EF = 936.7000 IN.
 SCALE = .0040

ALPHA = 10.000
 ELEVTR = 4.160
 AIRLON = -.670
 BDR LAP = .000
 SPDRK = 55.000
 RUDDER = .000
 CNFTG = 5.000
 VENTRL = 1.150

PARAMETRIC DATA

RUN NO. 312/ 0 RWL = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.99	-10.010	.18141	-.02447	.13824	.00094	.01354	.07780	.00598	.16492	.10941
4.99	-8.110	.18003	-.02285	.11440	.00055	.01168	.07613	.00608	.16394	.10645
4.99	-6.070	.17689	-.02310	.08663	-.00027	.00922	.07545	.00598	.16100	.10527
4.99	-4.040	.17611	-.02127	.06132	-.00057	.00628	.07368	.00589	.16051	.10331
4.99	-2.020	.17503	-.02167	.03903	-.00020	.00363	.07299	.00569	.15953	.10253
4.99	.000	.17513	-.01800	.00932	.00057	.00059	.07280	.00598	.15953	.10233
4.99	2.010	.17236	-.01901	-.01629	.00075	-.00206	.07221	.00579	.15708	.10125
4.99	4.030	.16975	-.01996	-.04140	.00084	-.00491	.07299	.00598	.15433	.10164
4.99	6.090	.16895	-.01810	-.06779	.00082	-.00765	.07437	.00628	.15325	.15282
4.99	8.070	.16816	-.01734	-.09360	.00031	-.00971	.07525	.00598	.15237	.15351
4.99	10.020	.16483	-.01816	-.11940	-.00078	-.01207	.07604	.00598	.14893	.14893
4.99	GRADIENT	-.00076	.00066	-.01275	.00019	-.00039	-.00011	.00001	-.00073	-.00023

MSFC 501(0449) ORB 34-0 (BCFPI) (WE) (L3=13)

(R92262) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0700 54. FT YMRP = 1061.3900 IN.
 LR EF = 481.6480 IN. YMRP = .0000 IN.
 BR EF = 936.7000 IN. ZMRP = .0000 IN.
 SCALE = .0040

PARAMETRIC DATA

ALPHA = 20.000 ELEVTR = 4.160
 AIRCON = -.670 BDFLAP = .000
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 5.000 VENTRL = 1.150

RUN NO. 310/ 0 RWL = 4.12 GRADIENT INTERVAL = -.5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
2.990	-10.130	.61270	-.04341	.15168	.03762	.02129	.06545	.01894	.54196	.29826
2.990	-8.190	.61339	-.04118	.12156	.00689	.01717	.08467	.01864	.54285	.25786
2.990	-6.160	.61074	-.03977	.09213	.00488	.01315	.08408	.01854	.54059	.29639
2.990	-4.100	.60986	-.03823	.06220	.00404	.00795	.08369	.01835	.53981	.29571
2.990	-2.050	.60927	-.03592	.03414	.00303	.00363	.08457	.01835	.53902	.29629
2.990	-.010	.60819	-.03526	.01128	-.00030	.00010	.08438	.01805	.53804	.29580
2.990	2.050	.60632	-.03507	-.01159	-.00441	-.00235	.08545	.01815	.53588	.29610
2.990	4.070	.60336	-.03399	-.03797	-.00630	-.00716	.08418	.01835	.53372	.29384
2.990	6.110	.60211	-.03546	-.06780	-.00713	-.01168	.08369	.01874	.53274	.29296
2.990	8.180	.59995	-.03549	-.09883	-.00825	-.01580	.08447	.01903	.53039	.29276
2.990	10.130	.59622	-.03661	-.12666	-.00977	-.01952	.08506	.01923	.52676	.29198
GRADIENT		-.00078	.00056	-.01201	-.00138	-.00178	.00009	-.00001	-.00075	-.00019

RUN NO. 311/ 0 RWL = 4.98 GRADIENT INTERVAL = -.5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
4.999	-10.010	.50537	-.02926	.12176	.00738	.01648	.07574	.00628	.44650	.24842
4.999	-8.110	.50517	-.03127	.09850	.00552	.01383	.07398	.00648	.44699	.24665
4.999	-6.090	.50458	-.03524	.07545	.00454	.01050	.07260	.00638	.44689	.24528
4.999	-4.040	.50406	-.02674	.05357	.00240	.00726	.07103	.00648	.44686	.24430
4.999	-2.020	.50419	-.02828	.03179	.00095	.00353	.07113	.00638	.44689	.24371
4.999	.000	.50380	-.02465	.01128	-.00108	.00010	.07123	.00648	.44670	.24371
4.999	2.030	.50203	-.02467	-.00854	-.00370	-.00285	.06995	.00638	.44542	.24184
4.999	4.030	.49713	-.02649	-.02963	-.00603	-.00677	.06927	.00648	.44111	.23949
4.999	6.070	.49781	-.02445	-.05210	-.00671	-.01020	.07074	.00657	.44130	.24116
4.999	8.100	.49654	-.02525	-.07721	-.00819	-.01344	.07221	.00657	.43944	.24204
4.999	10.020	.49281	-.02356	-.09841	-.01023	-.01619	.07290	.00697	.43581	.24135
GRADIENT		-.00099	.00010	-.01024	-.00107	-.00171	-.00023	-.00000	-.00084	-.00057



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TABULATED SOURCE DATA - 0A49

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NSFC 581(0A49) GRB 34-0 (BCPM) (WE) (L3=5)

(R92263) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONF16 = 5.000 VENTRL = 1.000

RUN NO. 354/ 0 RWL = 4.98 GRADIENT INTERVAL = -5.00V 5.00

MAOH	ALPHA	CN	CLM	CY	CYN	CEL	CAP	CAB	CL	CD
4.99	.030	-.04474	-.02579	.00275	.00140	.00000	.00349	.00628	-.04474	.08339
4.99	1.940	-.00196	-.02228	.00196	.00168	.00039	.08173	.00657	-.00471	.08163
4.99	3.970	.03777	-.01826	.00049	.00197	.00039	.07937	.00648	.03218	.08182
4.99	6.000	.06075	-.01863	.00098	.00177	.00039	.07555	.00638	.07241	.08359
4.99	8.030	.13796	-.01832	.00220	.00108	.00039	.07280	.00638	.11950	.09036
4.99	10.060	.18229	-.01566	.00010	.00079	-.00010	.07241	.00667	.16679	.10321
4.99	12.120	.23615	-.01606	.00099	.00089	-.00039	.07074	.00667	.21604	.11881
4.99	14.180	.29552	-.01570	.00118	.00070	-.00039	.06936	.00677	.26912	.13951
4.99	16.220	.36066	-.01697	.00090	.00030	-.00049	.06838	.00687	.32720	.16649
4.99	18.250	.42786	-.01986	.00020	.00010	-.00078	.06848	.00687	.38489	.19907
4.99	20.220	.50066	-.01841	.00068	.00040	-.00068	.06807	.00716	.44391	.23782
4.99	GRADIENT	.50093	.00174	-.00057	.00014	.00010	-.00010	.00005	.01951	-.00039

REFERENCE DATA

SREF = 2741.0000 SQ. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDFLAP = -11.700
 SPDRK = 55.000 RUDDER = .000
 CONF16 = 5.000 VENTRL = 1.190

RUN NO. 353/ 0 RWL = 4.98 GRADIENT INTERVAL = -5.00V 5.00

MAOH	ALPHA	CN	CLM	CY	CYN	CEL	CAP	CAB	CL	CD
4.99	.030	-.04493	-.02509	.00334	.00130	.00020	.08379	.00638	-.04503	.08368
4.99	1.940	-.00807	-.02236	.00392	.00131	.00049	.08222	.00648	-.00981	.08192
4.99	3.970	.03403	-.01946	.00245	.00130	.00000	.07937	.00648	.02924	.08153
4.99	6.000	.08388	-.01887	.00294	.00130	.00039	.07633	.00648	.07345	.08467
4.99	8.030	.13768	-.01967	.00226	.00080	-.00039	.07378	.00618	.11920	.09134
4.99	10.060	.18180	-.01605	.00343	.00032	-.00039	.07260	.00648	.16639	.10331
4.99	12.120	.23890	-.01630	.00451	.00014	-.00010	.07231	.00677	.21639	.12087
4.99	14.180	.29973	-.01678	.00441	.00004	-.00059	.07182	.00677	.27294	.14305
4.99	16.210	.36517	-.01796	.00491	-.00045	-.00078	.07084	.00677	.33093	.16993
4.99	18.250	.43120	-.02020	.00549	-.00152	-.00128	.06976	.00687	.38764	.20132
4.99	20.210	.49938	-.02211	.00667	-.00161	-.00128	.06716	.00716	.44395	.23949
4.99	GRADIENT	.50050	.00143	-.00023	-.00000	-.00005	-.00013	.00002	.01890	-.00055

NSFC 581(0A49) GRB 34-0 (BCPM) (WE) (L3=15)

(R92264) (22 MAY 74)

N6FC 501(0A49) OXB 34-0 (BCFN)(MC)(NR)(L3=30)

(R92265) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8750 SQ. FT YMRP = 1081.3950 IN.
LREF = 481.6480 IN. YMRP = .0000 IN.
BREF = 936.7550 IN. ZMRP = .0000 IN.
SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
AIRCON = -.670 BCDLAP = -11.700
SPDRK = 55.000 RUDDER = .000
CONFIG = 5.000 VENTEL = 1.300

RUN NO. 352/ 0 RW/L = 4.98 GRADIENT INTERVAL = -.5.00/ 5.00

WACH	ALPHA	CH	CLM	CY	CYM	CL	CAP	CAB	CL	CD
4.99	.030	-.04248	-.02350	.00402	.00190	.00039	.08496	.00638	-.04248	.08496
4.99	1.940	-.02056	-.02305	.00451	.00092	.00049	.08202	.00648	-.00481	.08182
4.99	3.970	.03915	-.01968	.00314	.00140	.00039	.07996	.00657	.03355	.08241
4.99	6.000	.08359	-.01878	.00432	.00121	.00049	.07653	.00648	.07515	.08487
4.99	8.030	.13598	-.01909	.00412	-.00056	.00000	.07496	.00638	.11920	.09252
4.99	10.060	.18327	-.01932	.00540	-.00005	-.00000	.07437	.00657	.16738	.10527
4.99	12.120	.24233	-.01809	.00716	-.00073	-.00099	.07398	.00657	.22144	.12323
4.99	14.160	.29737	-.02079	.00834	-.00219	-.00098	.07319	.00657	.27039	.14373
4.99	16.210	.37066	-.02126	.00952	-.00287	-.00118	.07329	.00677	.33564	.17385
4.99	18.270	.43591	-.02373	.01069	-.00295	-.00118	.07339	.00697	.39087	.20633
4.99	20.210	.50488	-.02685	.01187	-.00412	-.00128	.07456	.00706	.44797	.24449
4.99	GRADIENT	.02071	.00093	-.00223	-.00012	-.00000	-.00127	.00005	.01929	-.00064

DATE 18 JUL 74

TABLED SOURCE DATA - 0449

(R92266) (22 MAY 74)

REFERENCE DATA

SREF = 2741.0000 34. FT
LREF = 481.0000 IN.
BREF = 936.0000 IN.
SCALE = .0040

PARAMETRIC DATA

BETA = .000
ELEVTR = 4.100
ALURON = -.670
EDFLAP = .000
SPDRK = 55.000
RUDDER = .000
CONFIC = 6.000
VENTRL = 1.000

RUN NO. 356/ 0 RWL = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
2.990	-.03355	-.01292	.00196	.00139	.00020	.10782	.01737	-.03355	.10782
2.990	.01844	-.01334	.00137	.00119	-.00220	.10616	.01776	.01401	.10674
2.990	.07466	-.01235	.00128	.00148	.00020	.10321	.01786	.06730	.10822
2.990	.13490	-.01400	.00060	.00177	-.00020	.09939	.01766	.12362	.11312
2.990	.19710	-.01562	.00049	.00167	.00020	.09644	.01727	.18131	.12352
2.990	.26313	-.01653	.00020	.00167	-.00010	.09370	.01737	.24224	.13902
2.990	.32906	-.02105	-.00010	.00127	-.00010	.09164	.01756	.30189	.15982
2.990	.39911	-.02438	-.00020	.00106	-.00020	.09016	.01786	.36419	.18661
2.990	.47093	-.02788	.00000	.00078	-.00020	.08840	.01786	.42649	.21830
2.990	.54697	-.03196	-.00020	.00049	-.00029	.08594	.01795	.49114	.25558
2.990	.62055	-.03623	.00029	.00000	-.00029	.08408	.01805	.55148	.29669
2.990	.02706	.00015	-.00017	.00002	.00000	-.00116	.00012	.02322	.00010

RUN NO. 355/ 0 RWL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	CN	CLM	CY	CYN	CL	CAP	CAB	CL	CD
4.959	-.04180	-.02543	.00275	.00149	.00039	.08349	.00648	-.04189	.08349
4.959	-.00226	-.02296	.00324	.00160	.00059	.08202	.00657	-.00310	.08182
4.959	.04111	-.02120	.00177	.00129	.00059	.07898	.00677	.03561	.08163
4.959	.08447	-.02003	.00167	.00099	.00039	.07564	.00657	.07804	.08408
4.959	.13333	-.01975	.00157	.00158	.00010	.07456	.00648	.12156	.09252
4.959	.18445	-.01853	.00078	.00167	.00010	.07339	.00657	.16875	.10449
4.959	.24057	-.01879	.00049	.00069	.00000	.07142	.00667	.22016	.12048
4.959	.29982	-.01929	.00019	.00069	-.00049	.07093	.00677	.27541	.14216
4.959	.36438	-.02047	.00167	.00099	-.00029	.07015	.00687	.33054	.16114
4.959	.43542	-.02371	.00068	.00020	-.00039	.06927	.00687	.39185	.20211
4.959	.50360	-.02649	.00206	.00012	-.00049	.07015	.00697	.44837	.23988
4.959	.02105	.00107	-.00025	-.00005	.00005	-.00115	.00007	.01968	-.00047

MSFC 581(0A49) ORB 34-0 (BCPM)(WE)(L4=15)

(R92267) (22 MAY 74)

REFERENCE DATA

SKEF = 2741.8000 54. FT
 LREF = 481.6480 IN.
 BREF = 936.7000 IN.
 SCALE = .0040

PARAMETRIC DATA

BETA = .000 ELEVTR = 4.160
 AIRLON = -.670 BDRAP = .000
 SPDRK = 55.000 RUDDER = .000
 CONFIG = 6.000 VENTRL = 1.150

RUN NO. 345/ 0 RWL = 4.14 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
2.990	.020	-.03277	-.01387	.00540	-.00054	-.00059	.10773	.01717	-.03277	.10763
2.990	1.960	.01903	-.01324	.00491	-.00045	-.00049	.10596	.01737	.01540	.10665
2.990	4.020	.07398	-.01362	.00471	-.00075	-.00059	.10321	.01766	.06662	.10822
2.990	6.080	.13147	-.01473	.00451	-.00085	-.00069	.09948	.01737	.12019	.11283
2.990	8.150	.19671	-.01630	.00402	-.00105	-.00069	.09654	.01717	.18101	.12352
2.990	10.240	.26068	-.01876	.00500	-.00114	-.00088	.09458	.01727	.23968	.13942
2.990	12.320	.32877	-.02290	.00598	-.00191	-.00078	.09370	.01776	.30120	.16169
2.990	14.390	.39754	-.02460	.00648	-.00211	-.00098	.09213	.01805	.36213	.18808
2.990	16.470	.47083	-.02952	.00648	-.00318	-.00118	.09036	.01815	.42580	.22026
2.990	18.550	.54628	-.03306	.00785	-.00386	-.00118	.08928	.01844	.48947	.25352
2.990	20.530	.62124	-.03757	.00844	-.00474	-.00147	.08702	.01835	.55128	.29943
GRADIENT		.02669	.00006	-.00017	-.00005	-.00000	-.00113	.00012	.02485	.00015

RUN NO. 344/ 0 RWL = 5.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	.030	-.04493	-.02422	.00275	.00159	.00020	.08447	.00618	-.04503	.08438
4.959	1.930	-.00991	-.02376	.00392	.00092	.00039	.08173	.00648	-.01266	.08133
4.959	3.960	.03463	-.02014	.00314	.00130	.00000	.07967	.00657	.02904	.08192
4.959	6.000	.08271	-.01967	.00363	.00062	.00010	.07662	.00638	.07427	.08487
4.959	8.030	.12970	-.01979	.00285	.00002	-.00029	.07417	.00638	.11803	.09154
4.959	10.080	.18062	-.01917	.00471	-.00045	-.00049	.07407	.00657	.16483	.10459
4.959	12.120	.23880	-.01988	.00520	-.00163	-.00078	.07299	.00648	.21810	.12156
4.959	14.160	.29747	-.01924	.00706	-.00190	-.00108	.07241	.00657	.27069	.14305
4.959	16.200	.36635	-.02191	.00755	-.00278	-.00098	.07192	.00657	.33171	.17130
4.959	18.250	.43110	-.02484	.00805	-.00425	-.00147	.07201	.00667	.38675	.20338
4.959	20.190	.49958	-.02684	.00854	-.00444	-.00177	.07270	.00697	.44375	.24076
GRADIENT		.02027	.00105	.00009	-.00007	-.00005	-.00122	.00010	.11887	-.00061

DATE 18 JUL 74

TABULATED SOURCE DATA - 0A49

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MSFC 581(0A49) CRB 34-0 (BCFM) (NE) (L=0)

(R92268) (22 MAY 74)

REFERENCE DATA

SREF = 2741.8000 SQ. FT
LREF = 481.6480 IN.
BREF = 936.7000 IN.
SCALE = .0040

ALPHA = 20.000
AILRON = -.670
SPDRK = 55.000
CONFIG = 6.000

ELEVTR = 4.160
BDFLAP = .000
RUDDER = .000
VENTRL = 1.000

PARAMETRIC DATA

RUN NO. 339/ 0 RNVL = 5.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.010	.50105	-.02798	.11989	.00795	.01638	.07388	.00687	.44317	.24528
4.959	-8.110	.50350	-.02775	.09654	.00648	.01383	.07329	.00706	.44562	.24547
4.959	-6.090	.50193	-.02864	.07280	.00491	.01079	.07103	.00697	.44493	.24282
4.959	-4.060	.50095	-.02595	.05092	.00375	.00765	.06895	.00677	.44444	.24145
4.959	-2.020	.50066	-.02518	.02845	.00210	.00412	.06878	.00687	.44464	.24027
4.959	.000	.49987	-.02316	.00736	.00085	.00099	.06856	.00677	.44356	.24076
4.959	2.010	.49850	-.02512	-.01246	-.00226	-.00245	.06848	.00677	.44268	.23919
4.959	4.030	.49595	-.02584	-.03424	-.00313	-.00608	.06887	.00667	.44022	.23870
4.959	6.050	.49350	-.02510	-.05671	-.00400	-.00942	.07035	.00697	.43728	.23919
4.959	8.070	.49212	-.02599	-.08114	-.00577	-.01275	.07103	.00706	.43591	.23939
4.959	10.020	.48859	-.02402	-.10429	-.00714	-.01560	.07280	.00706	.43188	.23968
GRADIENT		-.00060	.00001	-.01045	-.00090	-.00168	-.00012	-.00001	-.00051	-.00033

REFERENCE DATA

SREF = 2741.8000 SQ. FT
LREF = 481.6480 IN.
BREF = 936.7000 IN.
SCALE = .0040

ALPHA = 20.000
AILRON = -.670
SPDRK = 55.000
CONFIG = 6.000

ELEVTR = 4.160
BDFLAP = .000
RUDDER = .000
VENTRL = 1.150

PARAMETRIC DATA

MSFC 581(0A49) CRB 34-0 (BCFM) (NE) (L=15)

(R92269) (22 MAY 74)

RUN NO. 340/ 0 RNVL = 5.03 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CLM	CY	CYN	CBL	CAP	CAB	CL	CD
4.959	-10.010	.50488	-.03092	.13019	.00195	.01531	.07967	.00657	.44464	.25195
4.959	-8.100	.50596	-.03206	.10704	.00058	.01266	.07702	.00677	.44660	.24979
4.959	-6.080	.50419	-.03199	.08320	-.00079	.00942	.07505	.00697	.44572	.24734
4.959	-4.060	.50537	-.02984	.05946	-.00196	.00618	.07378	.00677	.44729	.24665
4.959	-2.020	.50243	-.02651	.03826	-.00243	.00265	.07329	.00697	.44464	.24508
4.959	.000	.50262	-.02689	.01648	-.00497	-.00049	.07250	.00687	.44503	.24449
4.959	2.010	.50056	-.02673	-.00334	-.00719	-.00373	.07162	.00657	.44346	.24282
4.959	4.030	.49664	-.02747	-.02571	-.00816	-.00726	.07142	.00677	.43983	.24135
4.959	6.050	.49772	-.02755	-.00962	-.01050	-.01050	.07241	.00687	.44062	.24263
4.959	8.100	.49232	-.02657	-.07260	-.01021	-.01374	.07329	.00697	.43512	.24155
4.959	10.020	.48879	-.02566	-.09517	-.01206	-.01648	.07456	.00726	.43149	.24155
GRADIENT		-.00096	.00022	-.01049	-.00085	-.00165	-.00032	-.00002	-.00080	-.00064